Shifting toward healthy and sustainable diets: How to optimise evidence use for policy and practice

Area of research interest: Changing diets
Planned completion: 30 September 2022
Project status: Completed
Authors: Rachel Headings, Prof. Bob Doherty, Dr. Kelly Parsons, Prof. Tony Heron and Prof. David Barling
Conducted by: University of York in partnership with University of Hertfordshire, for the Food Standards Agency
Date published: 25 November 2022

General guidance on the technical report

Results available: Results available
Area of research interest: Changing diets
Research topics: Supporting research
Authors: Rachel Headings, Prof. Bob Doherty, Dr. Kelly Parsons, Prof. Tony Heron and Prof. David Barling
Conducted by: University of York in partnership with University of Hertfordshire, for the Food Standards Agency
DOI: https://doi.org/
Planned completion: 30 September 2022
Project status: Completed
Date published: 25 November 2022

Download the full report:

PDF
View Optimising Evidence Use in Policy and Practice: Shifting Toward Healthy and Sustainable Diets technical report as PDF(Open in a new window) (1.52 MB)

Headings, R., Doherty, B., Parsons, K., Heron, T., and Barling, D. (2022). Shifting toward healthy and sustainable diets: How to optimise evidence use for policy and practice. Technical report. Report for the Food Standards Agency.

Acknowledgements

We would like to thank the individuals who participated in this study for volunteering their time and insight. We also thank Professor Susan Michie and Nancy Hey for providing feedback on the project.

This project was completed by the University of York in partnership with the University of Hertfordshire and commissioned by the Food Standards Agency.

Overview

This document provides a technical summary of the ‘Optimising Evidence Use in Policy and Practice: Shifting Toward Healthy and Sustainable Diets’ project, including the context, methods, results and discussion of the results for the project. The central aim of the project was to understand how evidence on what works to shift people towards healthy sustainable diets can be better translated for, and adopted by, food policymakers and practitioners, including retailers and other on-the-ground actors. For this project, a healthy sustainable diet is understood as a ‘pattern of consumption behaviour that prioritises both human (social, cultural and nutritional safety, sufficiency and adequacy) and planetary (considering planetary boundaries) health.’ The objectives of the project were to investigate:

1. Current practices for evidence use by food policymakers and practitioners
2. Barriers to applying evidence to policy and practice
3. Enablers for improving the application of evidence to policy and practice

The remit was to focus on the retail-consumption end of the food chain, including retail, catering and eating, while acknowledging that the earlier activities in the chain - in particular manufacturing, but also farming - influence diets, and have a role to play in achieving a healthy sustainable diet shift. The research for the project was conducted between August 2021 and January 2022.

The Optimising Evidence project was conducted by a team of researchers from the University of York and University of Hertfordshire, through a co-creative process with evidence generators, policymakers and practitioners. The outputs include this technical report, a rapid review of evidence use literature and a practitioner toolkit for evidence generators entitled ‘Guiding Principles, Promoting healthy and sustainable diets: How to effectively generate and translate evidence.’ The report begins with both a lay and executive summary of the project. The context for the project is then introduced, followed by a detailed description of the methodology, including both the literature review and primary qualitative research phases of the project. The next section presents the research findings and includes a discussion of the results. The report ends with final thoughts from the research team and opportunities for future research in this area.

Technical report: executive summary

There is an increasing amount of evidence in the area of diet shift, including many academic studies on the problems caused by current diets, and on interventions which could provide solutions. Yet a significant proportion of this evidence is not reflected in policy or practice. This project investigates the current evidence on evidence use (including evidence generation, translation and adoption) in policy and practice, in order to understand how it happens, and how the process can be improved, in order to ensure the available evidence is reflected in action.

This was accomplished using a combination of qualitative research methods, including scoping and rapid evidence literature reviews, interviews, workshops, follow-up interviews and feedback sessions. The project included participation from 30 individuals who work as either food policymakers in national or local government, or decision-making practitioners in a food retail, small and medium enterprise (SME), nonprofit, third sector or nongovernmental (NGO) organisation.

The research process was as follows:

1. Scoping review of evidence use literature to determine project context and boundaries while developing a conceptual framework for the project;
2. Application of general evidence use literature to diet shift evidence ecosystem;
3. Definition of project scope, assumptions and boundaries;

4. Rapid review of evidence use literature to identify general boundaries to and enablers for evidence use in policy and practice;
5. Primary research recruitment and planning;
6. Elite interviews with food policymakers and retailers;
7. Workshops with decision-making food policymakers and practitioners;
8. Follow-up interviews with additional decision-making food policymakers and practitioners;
9. Feedback sessions to collaboratively revise the primary output of the Optimising Evidence project, the practitioner toolkit 'Guiding Principles, Promoting healthy and sustainable diets: How to effectively generate and translate evidence', referred to as 'Guiding Principles'

As a result of this process, the researchers identified a series of barriers to and enablers for evidence use, tailored to address better evidence generation and better evidence translation for policy and practice. These key enablers include:

- practice of interdisciplinary food systems approaches;
- greater co-creative and inclusive approaches to develop genuine partnerships with stakeholders;
- greater understanding of the policy process, actors and politics;
- credibility of research design and data;
- enhancement of evidence presentation and communication; and
- enhanced skills development for both evidence generators and users

These enablers are further broken down into eight different strategies in the Guiding Principles document. Most existing literature on evidence use applies to policy only; there is little evidence for evidence optimisation for on-the-ground practitioners, especially food practitioners specifically. This project provides insight, through the primary research, into evidence use needs and preferences for commercial and third sector practitioners actively working in the food system. There is opportunity for future research in the area of effective diet shift evidence use to determine the effectiveness of these different enablers and understanding the impact of evidence use on shifting toward healthy and sustainable diets.

Technical report: Introduction

Shifting consumption behaviour toward healthy sustainable diets is one of the biggest challenges of food systems today (footnote 1). There is an increasing amount of evidence generated in the area of diet shift, including many academic studies on the problems caused by current diets, and on interventions which could provide solutions. (footnote 2) Yet a significant proportion of this evidence is not reflected in policy or practice (footnote 3) (footnote 4) (footnote 5).
This project investigates the current evidence on evidence use (including evidence generation, translation and adoption) in policy and practice, in order to understand how it happens, and how the process can be improved, in order to ensure the available evidence is reflected in action. Because there is little research available on evidence use in relation to food systems specifically, the authors developed a conceptual framework (a basis of understanding) for evidence use in relation to diet shift, to be applied in the project. This involved examining the literature on evidence use more broadly, identifying a set of evidence users in food systems and exploring the relevance between the two.

Specifically, the project addresses the following questions:

1. What is the current evidence on evidence use for policy and practice?
2. What is the evidence on evidence use around diet shift?
3. What are the barriers to effective evidence use (that could be applied to diet shift)?
4. What are the enablers of effective evidence use (that could be applied to diet shift)?

1. Willet, W. and Rockstrom, J. et al. (2019) Summary report of the EAT-Lancet Commission: Healthy diets from sustainable food systems -- food, planet, health.

2. Willet, W. and Rockstrom, J. et al. (2019) Summary report of the EAT-Lancet Commission: Healthy diets from sustainable food systems -- food, planet, health.

3. Willet, W. and Rockstrom, J. et al. (2019) Summary report of the EAT-Lancet Commission: Healthy diets from sustainable food systems -- food, planet, health.

4. OECD (2021a) Making better policies for food systems: Executive summary. OECD iLibrary.

5. Mayne, R., Green, D., Guijt, I., Walsh, M., English, R. and Cairney, P. (2018) Using evidence to influence policy: Oxfam's experience. Palgrave Communications, 4(122).

Technical report: Methods

WA combination of qualitative methods that included a rapid literature review followed by a primary research phase which consisted of: elite interviews, retailer discussions, workshops (virtual and in-person), one-to-one follow-up interviews and feedback sessions. With input from the FSA, this project was designed to use a combination of qualitative methods that included a rapid literature review followed by a primary research phase which consisted of: elite interviews, retailer discussions, workshops (virtual and in-person), one-to-one follow-up interviews and feedback sessions. All data collection was informed by an initial scoping review and the rapid evidence synthesis of evidence use literature. The project underwent ethical review and approval through the Social Sciences Ethical Committee at the University of York (footnote 1). The methodological process for the project was as follows:

1. Scoping review to define boundaries and project scope
2. Application of general evidence use literature to diet shift
3. Definition of project scope, assumptions and boundaries
4. Aim 4: Rapid review of literature: barriers and enablers to evidence use
5. Primary research methods:

a) Elite interviews
b) Workshops 1 (virtual) and 2 (in person)
c) Retailer discussions
d) One-to-one workshop follow-ups
e) Feedback one-to-one sessions

Literature review

The literature review was a combination of a scoping review and a rapid evidence synthesis. The aim of the literature review was:

1. To scope the project and identify research boundaries:

- contextualise the project within the wider context of evidence optimisation and food systems literatures
- identify the relevant stakeholder groups for, and processes of evidence use
- identify gaps that exist within and between the different literatures

2. To develop a conceptual framework to inform the primary research phase:

- to investigate research questions including:
- o what is current practice by policymakers and practitioners for evidence communication and adoption?
- o what are the barriers to good practice in evidence communication and adoption?
- o what are the enablers to good practice in evidence communication and adoption?
- summarise insights and current thinking from implementation studies, including implementation science and (policy) implementation research, on the topic of evidence communication and adoption within and across different stakeholder groups
- summarise insights and current thinking on best practice and barriers to evidence communication and adoption

Aim 1: Scoping review to define boundaries and project scope

Research on evidence use across the relevant literature bodies was evaluated, analysed and synthesised. Potential sources for review were collated based on the authors' own knowledge and experiences working at the food policy-research interface. These sources were then cross-checked with reference lists and database and grey literature searches (SCOPUS, Google, academic libraries) to make sure all key evidence for the topic was covered. Due to practical constraints, limited scope and gaps in available evidence, the findings are generalised to evidence use as a whole.

The Evidence on Evidence Use and Improving Evidence Use

The study of evidence use is a multidisciplinary space. A mapping of the field by the Transforming Evidence project found Use of Research Evidence (URE) in policy and practice crosses many academic disciplines, policy and practice domains, and most academic disciplines have a group of scholars working on the use of evidence (footnote 2). A survey of URE researchers identified disciplinary traditions including: sociology, political science, organisational studies, psychology, science and technology studies, and communications (footnote 3). Different bodies of literature tend to address evidence use by policymakers to evidence use by practitioners. A forthcoming book by Boaz et al (footnote 4). describes the difference between policy and practice settings for evidence use:

"Policy studies and political science may be the dominant viewpoints on the policy arena, emphasising the role of interests, ideas and ideology. Practice settings, in contrast, tend more often to be explored by management and organisation studies, or industrial and social psychology, looking at managerial and professional norms, cognitive processes, social identity and the like."

Relevant Literature Bodies

The multidisciplinary nature of evidence use literature is further complicated by the multi-dimensional nature of diet shift evidence (for example the wide range of practitioner groups with a role in diet shift). The time-limited nature of the project meant it was not possible to exhaustively review all of the literature bodies. Instead, the project employed a snowballing approach and drew

on existing expertise of the project team to identify a range of the most relevant thinking, some more general and some more targeted to relevant participant groups. Actors and practitioners in policy and public, private and third sectors were identified as the most relevant groups regarding diet shift (see Table 4). Two bodies of literature were identified at the outset of the project as particularly relevant: 1) policy sciences and 2) implementation science (IS). However, there are stakeholders who are included in the project but are not directly addressed by the policy implementation research, use of research evidence, and implementation science literatures. These are non-health practitioners, including in the third sector, and commercial practitioners. In particular, these literatures do not address evidence use by commercial practitioners.

Policy sciences (addresses the role of evidence in policy making)

Evidence is a dominant theme in the policy sciences, particularly in the sub-field study of 'policy implementation research' (PIR). The focus of PIR is broader than its name suggests (for example, the implementation phase of evidence use); it includes everything related to "how governments put policies into effect" and has been conducted since the early 1970s (footnote 5). Classic studies include Lipsky's (1980) work on the important discretionary influence of street-level bureaucrats on-the-ground, and Pressmann and Wildavsky's (1984) 'Implementation (How Great Expectations in Washington Are Dashed in Oakland)', both of which highlight the complex pathway from evidence to policy adoption. Beyond this, policy sciences emphasise the role of politics in policy making and tend to reject the notion of "rational technical linear processes" (footnote 6). In other words, they assert that the policymaking process is unpredictable, complex and iterative in practice, despite the "idealised, rational and predictable" process that is commonly assumed in research fields (such as academia) (footnote 7). Policy sciences instead investigate the influences that competing values and interests, organisational structures and complex stakeholder groups (such as networks or coalitions of interested parties) have on the policy process (footnote 8). Policymaking is understood as "messy, complex and serendipitous", an idea illustrated by several classic political science studies, which describe how governments operate by 'muddling through', and that a range of circumstances (beyond the provision of evidence) must come together to enable a policy to reach the agenda (footnote 9).

Policy sciences literature is therefore particularly useful for identifying factors other than evidence that influence policymaking (and beyond); for example:

- the experience, expertise and judgement of policy officials and ministers
- values and ideologies
- available resources
- habits and tradition
- lobbyists, pressure groups, and the media
- the pragmatics and contingencies of everyday political life (footnote 10).

Policy sciences literature also heavily informs the study of URE as a whole. The rapid evidence review draws on policy sciences literature, including on PIR, URE and food systems policymaking.

Implementation Science

Another key body of literature with relevance to evidence use is implementation science (IS). Specifically targeted to the health professions, IS examines how healthcare practitioners can use research findings more effectively in routine clinical practice to develop research-informed practice (footnote 11). The implementation object is a specific clinical practice such as ordering of laboratory tests or delivering health promotion advice (footnote 12). The origins of IS are evidence-based medicine and its wider application as evidence-based practice, which emerged in the 1990s with the premise that research findings should be more widely implemented in practice

(footnote 13).

Commercial Practitioners

Much of the existing academic literature focuses on implementing evidence into policy rather than practice. Where practitioners are covered, they tend to be public sector practitioners, such as health professionals, often treated as a single group along with policymakers (footnote 14). Commercial practitioners are rarely an explicit focus, and it is unclear how transferable the literature on policy and practice is to these users, given they have different evidence needs, and different objectives (for example commercial imperatives, competitive positioning). One possible lens for understanding evidence uptake in businesses is the concept of 'diffusion of innovations' (Rogers 1995), which has roots in Rural Sociology, where innovations are "ideas or practices perceived as new by practitioners" (in this case, farmers) (footnote 15). Diffusion is understood as the spread of ideas among individuals, largely by imitation. Interventions aimed at spreading innovation harness the interpersonal influence of opinion leaders and change agents, and research mapped the social networks and adoption decisions of targeted individuals (footnote 16). Similar findings are reported in a recent paper on farmer use of peer networks for accessing information on agricultural innovation (footnote 17). Such conclusions may also be relevant to diet shift evidence.

Third Sector

No specific body of literature could be identified which addresses evidence use by the third sector. Several reports which address evidence and charities (footnote 18), or evidence and communities (footnote 19), focus more on the use of evidence which organisations have themselves created, or using evidence on the context they operate within for example demographic statistics). It is not clear how much these types of evidence use are relevant to diet shift third sector groups which are the focus of the project. Some insights are provided by the Food Research Collaboration (FRC) - an initiative of the Centre for Food Policy, at City University of London - which was established in 2014 to bring together academics, civil society organisations (CSOs) and practitioners "to produce and share the evidence-based knowledge needed to protect and expand the UK's sustainable food sector". As part of a scoping exercise the FRC conducted a review of evidence on collaboration, and on the relationship between research and CSO activities.

The What Works approach

There are many different methods and approaches to measuring, evaluating, promoting and describing the various ways in which evidence and policy/practice interact (footnote 20). The What Works Network (WWN) has become one of the most prominent actors in, and influencers of, evidence use. The WWN launched in 2013, with the purpose of "embedding robust evidence at the heart of policy-making and service delivery." (footnote 21) The network is made up of nine independent What Works Centres (WWC), three affiliate members and one associate member, covering a range of issues from ageing to policing (footnote 22).

The programme's work is broadly positioned as taking an evidence-based approach to addressing three parts of the evidence ecosystem:

- evidence generation (create): synthesising, systematically assessing and evaluating evidence on a specific topic as well as identifying and filling any gaps in research through commissioning new research or encouraging other organisations to do so (footnote 23).
- evidence translation (share): identifying, filtering, interpreting, adapting, contextualising and communicating evidence through formatted mechanisms (for example, evidence comparison toolkits, advice and guidelines, digital media and outreach programmes) which

are then disseminated to relevant audience groups (footnote 24). This is understood as being “the central role of WWC -- [to] ‘bridge’ institutions between producers of evidence and the consumers of evidence” (footnote 25).
- evidence adoption (use): “putting evidence into action” in a way that has lasting impact (footnote 26). This assumes that the availability of evidence is not enough -- evidence needs to be effectively communicated and individuals need “the right opportunities, incentives and skills” to adopt evidence (footnote 27).

Figure 1. What Works Network Activities Across the Research Use Ecosystem

Source: Gough et al. (2018)

In practice, evaluation of the WWN (footnote 28) has noted that it prioritises certain activities, as illustrated by Figure 1 (footnote 29). Generation does not tend to include generation of primary research, as most WWC “do not have the necessary resources to run extensive research programmes or have decided that these resources are better allocated differently” (footnote 30). There is also a stronger focus on translation than adoption. In addition, each WWC takes a different approach to its coverage of the evidence ecosystem and tools it uses.

The COM-B Model

COM-B is a behaviour change model, designed to help understand what drives behaviour and how to effectively influence behaviour change (footnote 31). It was identified by the commissioners of the project as a useful framework to help understand diet shift evidence use.

What is COM-B?

This model proposes that capability, opportunity and motivation are the key elements to behaviour, and in order to change a behaviour, all three elements must be addressed in some form:

- Capability: “the knowledge, skills and abilities required to engage in a particular behaviour,” including and physical (for example, facilities, equipment, time availability) and psychological capabilities (i.e. individual skills, knowledge) (footnote 32);

- Opportunity: “external factors which make the execution of a particular behaviour possible,” including physical (for example, timing, access) and social opportunities (for example, norms) (footnote 33);
- Motivation: “the internal processes which influence our decision making and behaviours” (for example, biases, perceptions) (footnote 34); and
- Behaviour: the action performed by an individual or group

“In order to perform a behaviour, [the individual] must feel they are both psychologically and physically able to do so, have the social and physical opportunity for the behaviour, and want or need to carry out the behaviour more than other competing behaviours. As each of these components interact, interventions must target one or more of these in order to deliver and maintain effective behaviour change” (footnote 35).

How can COM-B be applied to improving evidence use?

The COM-B model uses a relational approach which emphasises the interactions and relationships between the three elements and different stakeholder groups. This is particularly useful for diet shift evidence, due to the complexity of the evidence-to-policy/practice process. Figure 2 below demonstrates how each of these elements influence each other:

Figure 2. Elements and interactions of the COM-B Model

Source: Social Change UK (2019), p. 2

Research demonstrates that a co-creative (for example, relational) approach to evidence generation is desirable and effective for achieving desired impact; thus, COM-B was deemed useful to inform this project.

Evidence Use Stakeholders

Evidence use stakeholders include the actor groups throughout the evidence-to-policy/practice process. These include evidence generators, translators, disseminators, and end-users (for example, adopters and implementers).

One useful reference point when thinking about identifying evidence end-users is the approach taken by the WWN. There is no standard set of end-users across the WWN; each WWC has its own defined ‘audience’ for its outputs, and they vary in how main ‘users’ are defined, on:

- which potential users are prioritised (and which are not)
- how tightly these users are specified
- the relative emphasis on individuals, groups or organisations
- the emphasis on engaging early adopters/champions or a broader audience

- the distinction between the users of the Centres' outputs and services and the ultimate beneficiaries of the Centres' work
- equity issues of differential engagement with both the use and production of research (footnote 36).

The pathway between policy and practice for many - but not all - of the WWC is to a relatively homogeneous stakeholder group, such as police, teachers, early years providers, policymakers. There are other WWC which address cross-cutting issues and which have a broader range of end-users, including commercial practitioners (for example What Works Wellbeing).

The relationship between evidence and the end-user is not always direct, however. Diverse stakeholders and actor groups are involved in decision-making processes, both formal and informal, with different levels of influence over policy and practice. A comparison by Atkins et al (2017) of clinical medicine and public health captures the issue: "Public health is characterised by much more diverse and less well-defined problems than clinical medicine and has complex pathways of action and intervention".

Figure 3. Stakeholders in Evidence-to-Policy/Practice Ecosystem

Source: Results for Development, 2018, p. 3

As stated earlier, the roles that actors serve in the evidence use process are often multiple and blurred across stages. For example, a policymaker may serve as both a translator and an adopter; a government body may be generator, translator and implementer; and the manager of a local food shop may simply be an end-user. Figure 3 illustrates these crossovers, showing how one actor group (for example, an 'embedded expert') may have multiple roles in using evidence for policy (for example, 'producer' and 'policymaker'). This figure is specific to the policymaking process, but the concepts may be applied to the use of diet shift evidence in both policy and practice. Figure 4 is an adapted version of this graphic that does just that: it applies the same conclusions about blurred actor roles to diet shift evidence stakeholders.

For the purposes of this project, the term evidence end-users is used to refer to the combined implementation and adoption actor groups: policymakers and practitioners who have the capacity

to adopt and/or implement evidence into final policy and/or practice. This approach is often used in the literature, although it has been criticised as an oversimplification that contributes to the 'knowledge/practitioner' gap (footnote 37). The decision to combine the groups has been taken to manage the scope of the project and effectively prioritise research questions, but with recognition that these groups are not necessarily homogeneous.

Aim 2: Application of general evidence use literature to diet shift

The Diet shift Evidence Ecosystem

An evidence "ecosystem" is a term used by WWN to describe the particular evidence and evidence use system around a specific area of focus (such as wellbeing, youth futures, or education) (footnote 38). For diet shift, the evidence use system crosses multiple literature bodies which range from food systems to various different 'change' literatures (for example, behaviour change, systems change, social environmental systems change) (footnote 39).

Diet Shift Evidence Use

It is not clear how transferable insights on evidence use from different stakeholder-specific groups are to diet shift stakeholders. Because each group has differing evidence and adoption needs, there may be contradictory or diverse principles or practices on evidence use, because they come from different traditions and may define evidence use differently. A synthesis of the findings on different stakeholder groups is beyond the scope of this review; however, some reflections can be made. Comparisons of implementation science and policy implementation research, for example, reveal there are overlaps and differences. Research in both fields deals with the challenges of translating intentions into desired changes (footnote 40). In some cases, the implementation object may be the same in both fields, such as a guideline based on public health policies that prescribes the use of certain methods in healthcare (footnote 41). But there are also clear disciplinary differences: while policy implementation research is founded in social science, implementation science has adopted many principles from the natural sciences (for example, evidence-based medicine and evidence-based practice movements). Nilsen et al. (2013) describe these contrasts:

"Implementation science research has established a number of characteristics of healthcare practitioners that are associated with greater research use and/or increased implementation of evidence-based practices. It is difficult to draw analogous conclusions about policy implementation due to the complexity of organizational processes involved in the policy process. Policy may be implemented by multiple actors at multiple levels; some control may be exerted from policy formation to the street level, but the lines of hierarchy may be unclear if the organizations that collaborate in the implementation endeavour are accountable to different policy makers. (footnote 42)"

As stated above, policymakers and practitioners tend to be treated as a single group in much of the literature (footnote 43). On its own, the practitioner category is dominated by the public sector (for example, health providers, education providers) where there is a natural alignment between government (public policy) objectives and public sector organisations/service delivery. In the food sector, alignment is more complex and there is potential for dis-alignment between public sector objectives (for example, make people healthy) and private sector objectives (for example, sell food products). As detailed below, the private sector may be, at times, a 'policymaker' in its own right.

No specific literature on evidence use in food policy and practice could be identified, although there are pockets of work on the types of diet shift evidence that exist. It is important to note, however, that discussions and activities on data gaps related to food systems generally focus on evidence for food system problems. A mapping exercise of the UK food system identified several challenges around evidence availability on the activities and outcomes of the system (footnote 44). A recent review of evidence in food systems by the OECD identified significant gaps (footnote 45) and noted that evidence gaps may be especially pronounced in this field because the characteristics of food systems are:

- broad, encompassing food security, nutrition, environmental effects among others; AND
- diverse, making it difficult to extrapolate findings from one context to another (footnote 46).

Even larger gaps exist on the effectiveness of solutions or policymaking arrangements (footnote 47). For example, one review by SAPEA (2020) identified "a significant gap in knowledge regarding the effectiveness of policy interventions where a rich body of systematic evaluations of proposed interventions are often not available in sufficient numbers. (footnote 48)" Another recent review similarly found that evidence on policy levers was rarely accompanied by information on evaluations or effectiveness, with no details on the process of policymaking (footnote 49) .

These reviews highlight how evidence gaps can exist on:

- problems: what is the problem, how bad is it, who is impacted by it (i.e. what is a healthy sustainable diet, what metrics, who eats what, implications of changing diets for producers and consumers)
- solutions (what to do): actions/interventions (i.e. policy and practice measures) which can be taken in response to the problems (how can we shift people towards producing and consuming healthy sustainable foods?)
- implementation of Solutions (how to do it): how to design and ensure effective implementation of an intervention (footnote 50).

While the study of evidence in relation to food appears to focus predominantly on evidence availability, rather than evidence usage, there are some exceptions. One is the critical study of the role of science in food (safety) policy, for example in the case of BSE (footnote 51). Another is the identified friction around food systems evidence described in the OECD's 'Making Better Policies for Food Systems Report' (2021), which discusses barriers to an effective policy response due to disagreements over facts, diverging interests and values (footnote 52). For example, food system actors often have different interests, beliefs and ideas about what a 'better' diet should be and how to get there (footnote 53). The book 'What Works Now' (2019) uses the example of obesity policy evidence tensions between government-commissioned evidence and commercial practitioner evidence to illustrate the challenges inherent in the relationship between evidence, policy and practice (footnote 54). Despite these examples, food-related literature does not explicitly address how these findings impact on evidence use in policy and practice. Finally there are papers which highlight how policies, even if they are evidence-informed, may not result in effective implemented action. One analysis by Theis and White (2021) demonstrates how obesity evidence was not effectively translated and implemented within UK government strategies (footnote 55).

Identifying Diet Shift Evidence End-Users

Identifying one end-user group for diet shift evidence is not possible due to the complex nature of food systems. The stakeholder groups for diet shift and food systems are broad and vary across discipline, sector, geographical scale and role in the food value chain (footnote 56). Additionally, diet shift (within the context of this project) aims to achieve multiple outcomes (for example, health, environmental), which also cross disciplines and sectors. Finally, there are multiple food systems activities that could be considered relevant to diet shift evidence, including activities

across and within different sectors. For example, food supply and food consumption are both relevant to diet, and public, private and third sector actors all create and deliver policy and practice that influences consumption behaviour (footnote 57).

Figure 4 illustrates the complex and messy nature of the roles diet shift stakeholders may have in the evidence use process. The graphic is adapted from Figure 3 and based on the authors' expertise in food systems. The remainder of this section describes the participant stakeholder groups that have been identified as relevant for this project.

Figure 4. Stakeholder Groups in the Diet Shift Evidence Ecosystem

Source: Authors; *Note: illustrative only, not representative of all groups (see Table 4)

Food Actor Groups and Stakeholders

The literature on food systems identifies a range of activities and stakeholders, with no agreed or universal list (footnote 58). More specifically to diet shift, literature defining food environments (where diet choices take place), details a range of relevant settings and influential actors, again with no agreed list. Herforth and Ahmed's (2015) framework on nutrition and physical activity decisions defines the environmental settings as consisting of: homes; schools; workplaces; recreational facilities; food service and retail establishments and other community settings; and sectors of influence being: government; public health and healthcare systems; agriculture; marketing and media; community design and safety; foundations and funders; and industry (food, beverage, physical activity and entertainment). Other frameworks are more granular, listing settings including: food banks; markets (farmers; street); meal kit deliverers; cafeterias; vending machines and concession stands; checkout stands at non-food retailers; and specifying actors including store managers, owners, suppliers, distributors, wholesalers, and sales representatives (footnote 59).

Based on this literature, and drawing on the authors' own knowledge of food systems, Table 1 presents a list of food actor groups relevant to diet shift. Following the scope of this project

specified by its commissioners, Table 1 does not include:

- the home as a sub-domain of the food environment, as evidence use by the public/citizens is outside of the scope of the ‘Optimising evidence for diet shift’ project.
- activities and actors in the food system prior to retail/catering (including agriculture, trade, distribution, processing and manufacturing)

Table 1: Relevant Diet-Change Actors

Diet Change Actor Group	Sub-group	Actors
Policymakers (Public Policy)	National	Policymakers (Elected Officials; Civil Servants) working on: • Health/Safety/Standards • Environment • Trade • Agriculture • Education • Industry • Welfare
Policymakers (Public Policy)	Local (Local Government Departments; Service Commissioners; Local Food Partnerships formally linked in to local government)	Policymakers (Elected Officials; Civil Servants) working on: • Public Health • Environment • Planning • Business/Economic • Education • Welfare
Professional Practitioners (Public Sector)	Health Professionals	• GPs • Nutritionists/Dieticians • Early years Care including health visitors Professional Bodies: • British Medical Association • British Dietetics Association (one blue dot) • Institute of Health Visiting • Royal Society Public Health
Professional Practitioners (Public Sector)	Public Sector Food Procurement (schools, hospitals, prisons, public sector-owned recreational facilities, government estate) Professionals	• Procurement Managers • Catering staff Professional Bodies: • Food for life (for example, may conduct audits)
Professional Practitioners (Public Sector)	Education - on diet - Practitioners (early years care including Nurseries; Children’s Centres)	• Teachers • Nursery staff Professional Bodies: • OFSTED • Nursery equivalent
Professional Practitioners (Public Sector)	Third Sector (Food Charities, Community Groups, Local Food Partnerships)	• Charity/community project/Local Food Partnership managers • Charity/community delivery staff (incl. volunteers) • Food banks • Community provision/cooking schemes

Diet Change Actor Group	Sub-group	Actors
Commercial Practitioners (Private Sector Food Businesses)	Retailers (Incl. chain stores; independent stores; online retail; markets (incl. street markets and farmers markets); short supply chain initiatives incl. box schemes; community supported agriculture schemes); vending and concessions; checkouts at non-food retailers). • Caterers (incl. contract caterers; restaurants; cafes; meal delivery companies) • Restaurants • Marketing and Media companies (incl. media organisations; advertising companies; sponsors (incl. of media; sports activities). Food Industry Bodies (Selected Examples) • British Retail Consortium • Association of Convenience Stores • Food & Drink Federation • UK Hospitality • Sustainable Restaurant Association • Nationwide Caterers Association • Lists of other bodies Health and Safety Executive, The Food and Beverage Training Company.	Same as previous column.

Source: Authors informed by Hasnain et al (2020); Parsons et al (2018); Parsons (2020); National Academies

Aim 3: Definition of project scope, assumptions and boundaries

Within the context of this project, 'diet shift' is understood as the broad goal of shifting consumption behaviour toward healthy and sustainable diets, in line with the Sustainable Development Goals and recent goals of the UN Food Systems Summit 2021.

The project employs the following assumptions about healthy and sustainable diets:

1. 'Diet' is one aspect of a large, complex food system that is multifaceted, complex and crosses disciplinary, geographical and sector boundaries;
2. 'Sustainable' in this case refers to environmental sustainability (also including animal welfare), and includes climate change;
3. 'Healthy' is a general descriptive term that encompasses nutritional health and variety, food safety and quality standards recommended/set out by the UK government and the NHS;
4. Food system actors (including both individuals and actor groups) have agency, or the ability to affect change, within the food system a) Change can be both direct (a causal result of action) and/or indirect (a slow transition created by multiple actions and events interacting over space and time) b) The change impact, or level of influence, that an action has is inherently related to the autonomy (decision-making capacity and relative power) of the actor
5. Behaviour change is only one type of change and 'consumption' behaviour is only one type of food system behaviour.
6. Certain aspects of the food system, including some relevant food actor groups, are considered as largely beyond the scope of this project. Most notably:

a. Food accessibility and security, including the triple burden of obesity, malnutrition and undernourishment, long-term food poverty and affordability
b. Cultural and social components of food, including individual dietary preferences, food identity, and varying capacities for food access and preparation (for example, skills/knowledge, access to transportation, availability of food, access to equipment for food preparation, etc.)
c. Stages and actors the food value chain that occur broadly before consumption, including agricultural inputs, production, manufacturing, processing, transportation, testing (for example,

quality assurance, health and safety)
d. Evidence at the household- and/or individual-level for food systems
e. Global scale structural and systemic barriers and enablers (for example, broad political cultural and attitudes; varying international standards [for evidence and food], monopolisation, concentration of power, big data trends, financialisation, fetishisation of food and food products, etc.)

These wider considerations impact consumption behaviours and the shift toward healthy sustainable diets more broadly.

Aim 4: Rapid review of literature: barriers and enablers to evidence use

The rapid review of evidence use literature was closely linked to the scoping review; indeed many of the same sources were utilised for both. The research team drew on their own knowledge and experiences at the research-policy interface to collate relevant sources and literature, informed by additional source lists provided by the FSA and elite interview participants. Research on evidence use across the relevant literature bodies was evaluated, analysed and synthesised and described in the Optimising evidence use for diet shift project: Rapid review on (healthy and sustainable diets) evidence use in policy and practice. These sources were then cross-checked with reference lists and database and grey literature searches (SCOPUS, Google, academic libraries) to make sure all key evidence for the topic was covered. Due to practical constraints, limited scope and gaps in available evidence, the findings (presented below the results section) were generalised to evidence use as a whole then later applied to diet shift evidence use in particular.

This review was conducted based on the best available evidence which could be identified in the context of a rapid literature review. The findings were interpreted and applied to diet shift using the conceptual framework outlined in the results and drawing on the research team's knowledge and experience working at the policy-research interface. The conclusions were underpinned by a set of assumptions discussed above, and limited by the practical scope and context of the project, as well as some gaps in evidence. The following outstanding questions were identified, based on literature gaps identified through this review:

1. What is the evidence use process for food policymakers and practitioners?
2. How do food systems commercial practitioners generate, access and use evidence?
3. How do food systems third sector practitioners generate, access and use evidence?

Primary research methods

The gaps identified through the rapid evidence review were addressed through primary qualitative research, which involved interviews, co-creative discussions, workshops, one-to-one follow-ups and feedback sessions with 30 food policymakers and practitioners (see Table 1). The qualitative research investigated, in the context of healthy sustainable diets:

1. What is current practice for evidence use in diet shift policy and practice?
2. What are the barriers to evidence use in diet shift policy and practice are experienced by users?
3. How can diet shift evidence translation be improved to encourage adoption and implementation into policy and practice?
4. What are the most effective evidence use practices to enable diet shift for different stakeholder groups?

The primary research had four main phases (described in more detail below): recruitment and planning; interviews; workshops and one-to-ones; and feedback sessions. There was a strong emphasis on co-creation throughout the whole research process.

Recruitment and planning

The authors designed a framework to identify a range of potential participants who work as either food policymakers in national or local government, or decision-making practitioners in a food retail, small and medium enterprise (SME), nonprofit, third sector or nongovernmental (NGO) organisation. This involved working with participants at different scales to provide a range of different perspectives.

For the purposes of the primary research phase, participants were selected from a range of diet shift end-user groups. An ‘end user’ was understood by the authors to mean an individual or organisation professionally involved, either directly or indirectly, in the provisioning of food and, as such, are in a position to influence what people eat. End-users were categorised into the following groups:

- National and local POLICYMAKERS (health/ safety/ standards, environment, trade, agriculture, industry, public health, planning, business/ economic, education);
- Public sector/ PROFESSIONAL PRACTITIONERS (health professionals, public sector food procurement, education-on-diet practitioners, third sector practitioners); and
- COMMERCIAL PRACTITIONERS on the consumption end (retailers, caterers, restaurants) (footnote 60)

Participants were recruited from the research team’s networks throughout the food system. During the recruitment process, researchers paid particular attention to diversity of organisational type and expertise to ensure appropriate spread / representation between the different groups.

Elite interviews

Participants were invited to take part in the elite interviews by email. The initial email provided an overview of the project and included details such as the project’s aims and goals, the time commitment for the participant and an assurance of anonymity. Four individuals from DEFRA and two international food campaign/ policy organisations agreed to take part.. All elite interviews were recorded via Zoom (securely stored on the University of York cloud system) and transcribed. The data was analysed and synthesised using thematic analysis to develop the eight principles presented through the Guiding Principles document. The ‘Elite Interview Design Guide’, including the recruitment methods and interview questions, are provided in Appendix D.

Retailer discussions

A unique contribution of this study was to seek input from retailers at different scales. One workshop was conducted with smaller local food retailers, but the authors’ were also keen to seek the input of large supermarket retailers and their food policy teams. Due to prior knowledge of competition law, the authors were also conscious that it would be difficult to bring these large retailers together to discuss some of these issues. Therefore, the team decided to approach a large UK convenience retailer along with a large UK supermarket retailer (larger store format) to carry out discussions on evidence use in diet shift policy and practice including barriers and enablers. The five resulting discussions were recorded and transcribed. The data was synthesised and analysed using thematic analysis to develop the Guiding Principles. The discussion design was modelled off the ‘Elite Interview Design Guide’ provided in Appendix D.

Workshops

The research team conducted a total of two workshops with separate events for different audiences (including public and private sectors). The purpose of these workshops was to understand inductively the needs of the different audiences to inform a set of Guiding Principles for translating evidence to influence adoption into practice, but specifically:

- who is responsible for making decisions / implementing changes in their area of work (i.e. who do we need to communicate evidence to/ influence?)
- how they make decisions/ what informs these decisions (What do they currently consider? Do they consider any evidence at the moment? If yes, what evidence? How is this communicated to them? If not, why not?) (including the role of intermediary organisations such as professional bodies)
- have they recently made any changes to encourage healthy sustainable diets? What changes have they made? Why did they make these changes?
- barriers to and enablers for translation and adoption of evidence for healthy, sustainable diets
- needs for understanding, translating and adopting evidence for healthy, sustainable diets (for example, end-user needs for form, format, design, presentation and type of evidence on a particular intervention in order to be most likely to implement it)

Data from the workshops was analysed and synthesised with the rapid evidence review to develop the Guiding Principles. Then, key findings were shared and revised with a representative sample of participants through one-to-one feedback sessions.

The first workshop was a virtual event held over Zoom and included four participants working in the sectors of local government, a campaigning organisation and a local food hub. The second workshop was an in-person event which included four food business owners and decision-makers of a social enterprise start-up.. The second workshop was highly collaborative in structure, with a brief slide presentation provided at the start and the majority of the time spent in discussion of the three main research questions.

To help participants prepare for the workshops participants were also sent a pre-workshop task which asked them to think about an example of a decision or change that occurred in their place of work, ideally related to healthy sustainable diets (who made the decision, what information sources did they use, why was the decision made etc.). This supported more considered responses during the workshops. The Workshop Design Overview, including the questions and proposed agenda, is provided in Appendix E.

Participant interviews

Several recruited participants were unable to make the dates/ times of the workshops so interviews were offered instead, allowing the research team to gather data from a greater diversity and number of participants. A total of 11 interviews were conducted with participants from a regional public health network, a local food hub, third sector and community organisations, food banks, trade associations and an academic/ dietician. For data consistency, the interview script was closely modelled after the Workshop Design Guide (provided in Appendix E) and is included in Appendix F.

Feedback interview sessions

To gain further co-creative input from participants, a series of feedback sessions on the eight Guiding Principles was organised with both workshop and interview participants. These were designed to ascertain the strengths and areas for development in the Guiding Principles. This process provided further insight and ideas for future development of this work and also reinforced the practical usefulness of the Guiding Principles format and structure.

1. University of York ethics application reference ID: 85/2020-2.

2. Oliver, K. and Boaz, A., 2019. Transforming evidence for policy and practice: creating space for new conversations. Palgrave Communications, 5(1), pp.1-10.

3. Oliver, K. and Boaz, A., 2019. Transforming evidence for policy and practice: creating space for new conversations. Palgrave Communications, 5(1), pp.1-10.

4. Boaz, A. and Davies, H. eds. (2019) What works now?: evidence-informed policy and practice. Policy Press.

5. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation Science, 8(63).

6. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation Science, 8(63);

7. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation Science, 8(63); Lang, T. and Heasman, M. (2015) Food Wars: The global battle for mouths, minds and markets. (2 edn), Oxon: Routledge.

8. Sources: Oliver, K., Lorenc, T. and Innvær, S., 2014. New directions in evidence-based policy research: a critical analysis of the literature. Health research policy and systems, 12(1), pp.1-11; Clapp, J. (2018) Food. (2 edn), Cambridge: Polity Press.

9. Sources: Oliver, K., Lorenc, T. and Innvær, S., 2014. New directions in evidence-based policy research: a critical analysis of the literature. Health research policy and systems, 12(1), pp.1-11.

10. Davies, P. (2004) Is evidence-based government possible? Policy Hub, UK Cabinet Office.

11. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation Science, 8(63).

12. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation Science, 8(63).

13. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research. Implementation

Science, 8(63).

14. Sources: Oliver, K. and Boaz, A., 2019. Transforming evidence for policy and practice: creating space for new conversations. Palgrave Communications, 5(1), pp.1-10; Boaz, A. and Davies, H. eds. (2019) What works now?: evidence-informed policy and practice. Policy Press.

15. Greenhalgh, T., Robert, G., MacFarlane, F., Bate, P. and Kyriakidou, O. (2004) Diffusion of innovations in service organizations: systemic review and recommendations. The Milbank Quarterly, 82(4), p. 581-269.

16. Greenhalgh, T., Robert, G., MacFarlane, F., Bate, P. and Kyriakidou, O. (2004) Diffusion of innovations in service organizations: systemic review and recommendations. The Milbank Quarterly, 82(4), p. 581-269.

17. Rust, N. A. et al. (2021) Have farmers had enough of experts? Environmental Management, 69 (2022), p. 31-44.

18. Taylor-Collins, E. (2018) Evidence for Good. Nesta (2 July).

19. Knowledge Translation Network (2019) 'Engaging with evidence: how communities can get and use evidence,' Community Health Exchange.

20. Farley-Ripple, E.N., Oliver, K. & Boaz, A. (2020) Mapping the community: use of research evidence in policy and practice. Humanit Soc Sci Commun 7, 83.

21. What Works Network (2018) The What Works Network: Five Years On. (January)

22. What Works Network (2019) 'Guidance: What Works Network', Cabinet Office.

23. What Works Network (2018) The What Works Network: Five Years On. (January).

24. Results for Development (2018) 'Scoping Study: Evidence translators' role in evidence-informed policymaking: A brief on evidence translation and translators'.

25. What Works Network (2018) The What Works Network: Five Years On. (January)

26. What Works Network (2018) The What Works Network: Five Years On. (January)

27. What Works Network (2018) The What Works Network: Five Years On. (January)

28. Gough D, Maidment C, Sharples J. (2018). UK What Works Centres: Aims, methods and contexts. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. ISBN: 978-1-911605-03-4.

29. Gough D, Maidment C, Sharples J. (2018). UK What Works Centres: Aims, methods and contexts. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. ISBN: 978-1-911605-03-4.

30. Gough D, Maidment C, Sharples J. (2018). UK What Works Centres: Aims, methods and contexts. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. ISBN: 978-1-911605-03-4.

31. Social Change UK (2019) 'A guide on the COM-B Model of Behaviour',Social Change UK.

32. Social Change UK (2019) 'A guide on the COM-B Model of Behaviour',Social Change UK.

33. Social Change UK (2019) 'A guide on the COM-B Model of Behaviour',Social Change UK.

34. Social Change UK (2019) 'A guide on the COM-B Model of Behaviour',Social Change UK.

35. Social Change UK (2019) 'A guide on the COM-B Model of Behaviour',Social Change UK.

36. Gough D, Maidment C, Sharples J. (2018). UK What Works Centres: Aims, methods and contexts. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. ISBN: 978-1-911605-03-4. Available at https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3731

37. Results for Development (2018) 'Scoping Study: Evidence translators' role in evidence-informed policymaking: A brief on evidence translation and translators'.

38. What Works Network (2018) 'The What Works Network: Five Years On,' What Works Network.

39. Sources: OECD (2021a) 'Making better policies for food systems: Executive summary,' OECD iLibrary; OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing; Lang, T. and Heasman, M. (2015) Food Wars: The global battle for mouths, minds and markets. (2 edn), Oxon: Routledge.

40. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research,' Implementation Science, 8(63).

41. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research,' Implementation Science, 8(63).

42. Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research,'

Implementation Science, 8(63).

43. Sources: Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) 'Never the twain shall meet? a comparison of implementation science and policy implementation research,' Implementation Science, 8(63); Oliver, K. and Boaz, A., 2019. Transforming evidence for policy and practice: creating space for new conversations. Palgrave Communications, 5(1), pp.1-10.

44. Hasnain, S., Ingram, J. and Zurek, M. 2020. Mapping the UK Food System – a report for the UKRI Transforming UK Food Systems Programme. Environmental Change Institute, University of Oxford, Oxford. ISBN 978-1-874370-81-9

45. OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing.

46. OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing.

47. Science Advice for Policy by European Academics (SAPEA) (2021) 'A sustainable food system for the European Union,' SAPEA, 7.

48. Science Advice for Policy by European Academics (SAPEA) (2021) 'A sustainable food system for the European Union,' SAPEA, 7.

49. Sources: OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing; Parsons K, Barling D, Lang T. (2018) UK Policymaking Institutions and their Implications for Integrated Food Policy. Advances in Food Security and Sustainability. Nov 12; 3:211 p. 233; Science Advice for Policy by European Academics (SAPEA) (2021) 'A sustainable food system for the European Union,' SAPEA, 7.

50. Sources: OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing; Parsons K, Barling D, Lang T. (2018) UK Policymaking Institutions and their Implications for Integrated Food Policy. Advances in Food Security and Sustainability. Nov 12; 3:211 p. 233; Science Advice for Policy by European Academics (SAPEA) (2021) 'A sustainable food system for the European Union,' SAPEA, 7.

51. van Zwanenberg, P and Millstone, E. (2005) BSE: Risk, Science, and Governance. Oxford University Press. ISBN-0-19-852581-8.

52. OECD (2021a) 'Making better policies for food systems: Executive summary,' OECD iLibrary.

53. OECD (2021a) 'Making better policies for food systems: Executive summary,' OECD iLibrary.

54. Boaz, A. and Davies, H. eds. (2019) What works now?: evidence-informed policy and practice. Policy Press

55. Theis, D. and White, M. (2021) 'Is obesity policy in England fit for purpose? Analysis of government strategies and policies, 1992-2020,' Milbank Quarterly, 99(1), p. 126-170.

56. Sources: OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing; Parsons, K. and Barling, D. (2021). Food Systems Transformation - What's in the Policy Toolbox?. A Report for the UKRI Transforming UK Food Systems Programme; Parsons K, Barling D, Lang T. (2018) UK Policymaking Institutions and their Implications for Integrated Food Policy. Advances in Food Security and Sustainability. Nov 12; 3:211 p. 233; Lang, T. and Heasman, M. (2015) Food Wars: The global battle for mouths, minds and markets. (2 edn), Oxon: Routledge.

57. Sources: OECD (2021b) 'Overcoming evidence gaps on food systems,' OECD Publishing; Parsons, K. and Barling, D. (2021). Food Systems Transformation - What's in the Policy Toolbox?. A Report for the UKRI Transforming UK Food Systems Programme; Parsons K, Barling D, Lang T. (2018) UK Policymaking Institutions and their Implications for Integrated Food Policy. Advances in Food Security and Sustainability. Nov 12; 3:211 p. 233; Lang, T. and Heasman, M. (2015) Food Wars: The global battle for mouths, minds and markets. (2 edn), Oxon: Routledge.

58. See for example: Hasnain, S., Ingram, J. and Zurek, M. 2020. Mapping the UK Food System – a report for the UKRI Transforming UK Food Systems Programme. Environmental Change Institute, University of Oxford, Oxford. ISBN 978-1-874370-81-9; Committee on a Framework for Assessing the Health, Environmental, and Social Effects of the Food System, et al. (2015). A Framework for Assessing the Effects of the Food System. National Academies Press (US) June 17; Parsons, K. and Barling, D. (2021). Food Systems Transformation - What's in the Policy Toolbox?. A Report for the UKRI Transforming UK Food Systems Programme; Parsons K, Barling D, Lang T. (2018) UK Policymaking Institutions and their Implications for Integrated Food Policy. Advances in Food Security and Sustainability. Nov 12; 3:211 p. 233

59. Winkler, M.R., Zenk, S.N., Baquero, B., Steeves, E.A., Fleischhacker, S.E., Gittelsohn, J., Leone, L.A. and Racine, E.F., (2020). A model depicting the retail food environment and customer interactions: Components, outcomes, and future directions. International journal of environmental research and public health, 17(20), p.7591

60. COMMERCIAL PRACTITIONERS within the workshop series prioritise/ target 'on-the-ground' end-users (i.e. chefs, restaurant managers, store managers) and representatives of peak bodies (i.e. Sustainable Restaurant Association, Association of Convenience Stores, etc.). The co-creative retailer discussions prioritise/ target senior level decision makers at corporate head offices who may be concerned about competition and disclosing trade secrets in a workshop format.

Technical report: Results

The findings were analysed using an iterative thematic analysis process, which involved listening to recordings, reviewing and synthesising facilitator notes and collaboratively (among the

research team) drafting a practitioner guide entitled: ‘Guiding Principles, Promoting healthy and sustainable diets: How to effectively generate and translate evidence’, referred to as the ‘Guiding Principles’ hereafter.

Rapid Review: Conceptual Framework for Understanding Diet-Change Evidence Use

The following section describes the results from the rapid review of evidence use literature. First, current practice for applying evidence into practice is described through ‘the evidence use process.’ The different stages of this process – generation; translation; dissemination; adoption and implementation – are commonly referred to throughout the literature and deeply integrated throughout the project. In line with the What Works approach described in the scoping review, this section provides an idealised version of the evidence use process and discusses how the ‘ideal’ seldom reflects the ‘practical’ experience of applying evidence to policy and practice. Next, a summary of terms which feature throughout the project is provided.

Following this, the barriers to and enablers for evidence use are provided through two different tables and include the barrier/ enabler, a brief description and the relevant stage(s) of the evidence use process. These barriers and enablers were found exclusively through the rapid evidence review and were not informed by the primary qualitative research. During the write-up stage, both these findings and the primary research findings were synthesised to develop the Guiding Principles. The barriers are organised by the COM-B model presented in the scoping review and loosely colour-coded by evidence use stage (reflected in Figure 5). The enablers tend to cut across the different evidence use process stages, actor groups and sectors, but are also listed in by the evidence use process stage as much as possible. Table 4 also includes the relevant barrier(s) for each enabler, in direct reference to Table 3. Not all barriers have a reflecting enabler and some enablers may support multiple barrier(s); however, this category demonstrates the close relationship between the two and also the complexity of evidence use. The literature also demonstrated that for some sectors, health practitioners and third sector actors in particular, there are specific enablers that may improve the application of evidence to practise. These results are provided in separate tables. The section ends with a brief discussion about the applicability of the discovered barriers and enablers to diet shift evidence use.

What are current practices for applying evidence to policy and practice?

The process for the application of research evidence into policy and practice is complex, and understanding how this process works in ‘the real world’ is critical for evidence to be successfully adopted and implemented (footnote 1). Evidence generators, especially academics and researchers, commonly have an “idealised” understanding of how evidence is used to inform decision-making in that they believe it to be “rational”, “predictable”, “linear” and “direct.” (footnote 2) In practice, however, this process is usually messy, unpredictable, iterative and non-linear (footnote 3). While this is true of any policy issue or field, food systems are inherently complex and wide-reaching, so these characteristics are particularly pronounced in the case of diet shift evidence (footnote 4).

The following section outlines the idealised evidence use process and describes each stage: evidence generation (1); evidence translation, including message crafting and communication (2); evidence dissemination (3); evidence adoption (4) and evidence implementation (5). Figure 5 below presents a graphical representation of this idealised evidence use process produced by the authors, informed by the literature bodies set out in the methods.

Figure 5. Evidence-to-Policy/Practice Process

Source: Authors

Stage 1: Evidence Generation

The first stage of the evidence-to-policy/practice process is evidence generation (see Figure 5). In general terms, this can be understood as the creation of evidence based on research. It may involve:

- conducting primary research;
- collating and synthesising existing evidence to provide new insights; or
- assessing and evaluating existing evidence (footnote 5).

Generated evidence fundamentally involves the creation of new evidence, through either primary (first-hand) or secondary (using existing evidence) research. There are a variety of different generation mechanisms which depend on the project's aims and objectives as well as the researcher's approach and relationship to the end user. Each mechanism has its own challenges, benefits and relevance to certain audiences. Appendix A provides a table of common ways to generate evidence, along with their associated challenges, benefits and applicability to different participant groups.

Stage 2: Evidence Translation

The second stage of the evidence-to-policy/practice process is evidence translation (see Figure 5).

Evidence translation has been defined as "an active process through which actors identify, filter, interpret, adapt, contextualise and communicate evidence for the purpose of policy [and practice]. (footnote 6)" This includes the two components message crafting and communication.

- message Crafting is the process of critically reviewing the data to identify and filter the relevant research findings; interpret the results; and adapt and contextualise it for the appropriate audience (footnote 7).
- communication is the process of identifying the appropriate audience and formatting and packaging the evidence into a deliverable message (i.e. aesthetics, style, language and

type of mechanism through which the evidence will be conveyed that can be effectively received (see Table 2). For this to occur, the message must be understandable, accessible and clear, which requires the translator to make judgments on the audience's knowledge base, interests and priorities (footnote 8). Additionally, the target audience must have the capacity and motivation to act on the message (i.e. evidence) and choose to advocate for it to be adopted into policy and/or practice (see adoption and implementation). Communication is often combined with evidence dissemination in the literature.

The context, clarity and accessibility of the communication mechanisms are critical to how effectively the messages from the research are received by the target audience (see barriers) (footnote 9). To address this, evidence translators may choose to use multiple mechanisms to more effectively reach their audience(s). For example, toolkits, briefs and seminars are common outputs from a research project which communicate to different audiences (footnote 10). Appendix B lists popular evidence communication and dissemination mechanisms, along with their challenges, benefits, target audiences and effectiveness based on the available evidence.

Stage 3: Evidence Dissemination

The third stage of the idealised evidence-to-practice/policy process is evidence dissemination, which is closely related to evidence translation and the two are often combined as one step in the literature (footnote 11). Evidence dissemination is the task of delivering the message to the appropriate audience or individual (see Figure 5). The target audience must have the knowledge, capacity and motivation to act on the message (i.e. research findings) and advocate for it to be adopted into policy and/or practice (footnote 12). Additionally, the disseminated message must be accessible, relevant and timely in order to be received by the audience.

Stages 4 & 5: Evidence Adoption and Implementation

The fourth and fifth stages of the idealised evidence-to-policy/ practice process are evidence adoption and implementation (see Figure 5). Adoption and implementation are the stages where decision-makers review evidence, choose whether or not to integrate it and convert it into deliverable actions. Together, these two stages can be understood as a tipping point for the application of evidence into policy and/or practice.

- adoption is the act of integrating research evidence into policy and/or practice. It occurs when evidence findings are reviewed by the appropriate audiences, judged as useful and considered when designing policy and/or practice actions. The influence that the evidence has on the final policy and/or practice may vary; but in order to be successfully adopted the evidence must have some influence on the decision-making process. Evidence adopters are decision makers who receive the translated evidence and have the capacity to affect change (footnote 13).
- implementation is the conversion of the policy and/or practice into action 'on-the-ground'. It involves deciding how to pursue the policy and/or practice, convert it into actionable steps (including who is responsible for delivery) and delivering it to the public in the appropriate setting/environment. Evidence implementers are the 'on-the-ground' actors who deliver the final policy and/or practice (to the public) (footnote 14).

Process of Diet Shift Evidence into Policy and Practice

In food, evidence is generated not only by academic institutions and other research organisations, but also by government itself. Policy is not necessarily made by governments to be implemented by public sector implementers; commercial practitioners - individual companies/chains and peak bodies are also 'policy-makers' in the sense that they set internal and industry/sector policies and introduce interventions (e.g. certification; labelling; voluntary commitments on reformulation,

advertising etc). So, unlike in more defined stakeholder groups such as health professionals and their relationship to implementation science, the evidence pathway is not sequential from evidence generation to policy to practise. The diversity of food system actors, and thus the end-users of diet shift evidence, means that there is no single pathway from evidence to policy and practice. Likewise, for diet shift the evidence-implementation process is messy, blurred, indirect and often difficult to predict (footnote 15). These qualities lead to a strong potential for gaps or discontinuous points throughout the evidence use process. Appendix C provides an overview of these potential gaps.

Summary of terms

Informed by the evidence on evidence use and the diet shift evidence ecosystem described above, a range of terms are utilised in the project. The section below recaps the definitions of these terms, organised according to evidence use process stage and actor group.

Evidence use process

Evidence Generation: The creation of evidence based on research

- may involve: conducting primary research
- synthesising existing evidence
- assessing and evaluating existing evidence

Evidence Translation: The active process through which evidence use stakeholders craft and communicate research evidence for the purposes of policy and/or practice

- message crafting: the critical process of reviewing data to identify and filter the relevant research findings; interpret the results; and adapt and contextualise it for the appropriate audience
- communication: the process of identifying appropriate audience(s) and formatting evidence into a deliverable message that can be effectively received by end-users

Evidence Adoption: The act of integrating research evidence into policy and/or practice

- occurs when evidence findings are:
- received and reviewed by the appropriate audiences
- judged as useful
- considered when crafting new policy and/or practice actions
- *the influence evidence has on the final policy and/or practice may vary; but in order to be successfully adopted the evidence MUST have some influence on the decision-making process

Evidence Implementation: Conversion of the policy and/or practice into action ‘on-the-ground’

- involves deciding how to pursue the policy and/or practice
- converting it into actionable steps (including who is responsible for delivery)
- delivering it to the public in the appropriate setting/ environment

Actors and Actor Groups

Evidence Generators: Any evidence use actor or actor group that creates new evidence, including both:

- primary researchers who develop new data sets to create new evidence (i.e. academics, scientists, professional researchers, think tanks) AND
- applied researchers who review existing data and reframe it to create new evidence (i.e. corporations, government bodies, NGOs)

Evidence Translators: evidence use stakeholder(s) that identifies, filters, interprets, adapts, contextualises or communicates evidence for the purpose of policy and practice

Evidence End-users: Policymakers and practitioners with the capacity to adopt and/or implement evidence into final policy and/or practice, including both adopters and implementers
Stakeholder Groups:

Evidence use stakeholder: an individual, organisation or group of actors that serve a role in the evidence use process and generally includes: generators, translators and end-users

Participant stakeholder: an individual, organisation or group of actors that serve a role in the diet shift evidence use process and have been identified as relevant to this project (see Table 4)

What are the barriers to evidence use for policy and practice?

Barriers to evidence use in policy and practice cross the different stages of the evidence use process and the different stakeholder groups. Broadly, 15 barriers that appear throughout the relevant literatures and which can be applied to diet shift evidence use have been identified. These are listed in Table 2, organised according to the COM-B model, with brief descriptions and referencing the different stages of the evidence use process to which they apply. The table descriptions are drawn from the literature, sometimes adapted to fit the project focus on diet shift evidence use.

Table 2: Barriers in the evidence use process (footnote 16)

COM-B component	Barrier	Description	Evidence use process stage
Capability Physical (for example structural and organisation)	Time	The generator/translator's time availability to conduct research and craft and communicate messages	Generation, translation
Capability Physical (for example structural and organisation)	Time	The end-user's time availability to receive, review and decide whether to integrate evidence	Translation especially communication, dissemination, adoption
Capability Physical (for example structural and organisation)	Resources	The generator's availability of resources (i.e. budget, equipment, technology, 'man-power') to conduct research	Generation
Capability Physical (for example structural and organisation)	Resources	The end-user's availability of resources (i.e. budget, equipment, facilities, technology, 'man-power') to deliver policy/practice actions	Adoption, implementation
Capability Physical (for example structural and organisation)	Organisational complexity	The impact of complex organisational and hierarchical structures ('bureaucracy') for evidence use stakeholder groups, which can result in ineffective collaboration and communication and incoherence between: • Policy/practice AIMS and IMPACTS • Different end-user bodies (for example, departments, sectors) • Different scales (for example, national, local)	Adoption, implementation

COM-B component	Barrier	Description	Evidence use process stage
Capability Psychological (for example skills and knowledge/knowledge management)	Comprehensibility	The ‘understandability’ of the message, especially language (for example, colloquial vs. jargon): which should be clear, concise, and above all understandable	Translation especially message crafting, adoption
Capability Psychological (for example skills and knowledge/knowledge management)	Inappropriate skills and/or knowledge and/or lack of skills and/or knowledge	Generator and translator skills and knowledge about: • evidence-to-policy/practice process • end-users’ knowledge base and needs • effective communication (for example, clarity, understandability, active vs. passive voice, using simple language, etc.) • political/cultural/practical context • rigorous research methods (for ‘in-house’ researchers)	Generation, translation
Capability Psychological (for example skills and knowledge/knowledge management)	Inappropriate skills and/or knowledge and/or lack of skills and/or knowledge	End User skills and knowledge, which are dependent on individual and situational circumstances. They may lack skills and/or knowledge about: • disciplinary assumptions and context • topic background and context (for example, may not understand contextual differences and complexity) • how to read/ understand research writing and data (for example, jargon)	Adoption, implementation
Capability Psychological (for example skills and knowledge/knowledge management)	Unmanageable volume(s) of evidence	The End User's overload of information; an inability for the end-user to effectively identify, understand and filter relevant evidence due to limited ‘attentive capacity’ (see below) and large amounts of research; especially associated with ‘push’ generation. *Also contributes to ‘Time’ above, ‘Attentive Capacity’ below	Generation, adoption (for example, causes evidence to be automatically rejected), implementation
Capability Psychological (for example skills and knowledge/knowledge management)	Ineffective presentation of evidence	Inability of TRANSLATORS to identify and interpret relevant findings and communicate them effectively (for example, form, formatting, language, aesthetics). Important considerations include: • content and language • sentence structure and grammar • form (for example, mechanism) and format/design • aesthetics • timing (for example, when evidence is presented)	Translation, adoption and implementation
Opportunity	Limited access to credible evidence	Translator and end user lack of access to evidence that is clear, verifiable and peer-reviewed due to: • scientific journal subscriptions (lack thereof and affordability) • poor quality ‘in house’ research due to • lack of skills/knowledge/training • time pressures • routinised research methods • lack of formal evaluation (i.e. inability to judge effectiveness of interventions)	Translation, Dissemination, adoption and implementation

COM-B component	Barrier	Description	Evidence use process stage
Opportunity	Alternative capacity	The limited energy an individual Generator/ translator or end-user can expend on a particular task, (for example, focus); affected by: • situational and personal factors (for example, access to resources, partisan bias, feeling unwell, etc.) which change over time • competing messages, desires, needs, responsibilities/ demands • time pressures	Generation, Dissemination, adoption and implementation
Opportunity	Unequal coverage	Biassed or slanted inclusion of research findings and counter-perspectives influencing content and Availability. Content: “the extent to which the communication describes the most important options and their potential outcomes, for example, who is affected, which outcomes are included, short- and long-term benefits and harms, and uncertainties” (footnote 17) Availability (for example, publication bias): instances when journals prioritise certain fields or types of studies (for example, quantitative versus qualitative)	Translation, adoption and implementation
Motivation	Lack of Salience	Failures in timeliness or relevance of evidence with respect to current policy and practice priorities and its applicability to the intended context	Dissemination, adoption, implementation
Motivation	Biases, Attitudes and Perceptions	Neutrality: the actual and perceived balance of coverage in research findings, impacted by • generator bias and content FRAMING (i.e. identification and interpretation of evidence) and • time and space restrictions (see Capacity above)	Generation, translation, adoption, implementation
Motivation	Biases, Attitudes and Perceptions	Communication Environments: (footnote 18) the cultural and normative contexts that influence how messages are received, including: Competition for attention: the overload of available information, not all of it credible, that exists online and in the media Political Polarisation: the integration of scientific evidence with partisan opinions Status Quo bias: behavioural phenomenon of individuals seeking comfort in maintaining the status quo in times of controversy rather than pursuing change *Linked to Cultural differences below	Generation, translation, dissemination, adoption, implementation
Motivation	Biases, Attitudes and Perceptions	All actors within the evidence use process experience cognitive biases which are rooted in individual perception and information processing; these include; Confirmation Bias: when an individual seeks out evidence that confirms a previously held assumption (for example, a person who eats meat seeks out evidence that meat consumption is more nutritionally balanced than a vegan diet) Selection Bias: when an individual selectively chooses to pay attention only to evidence that reinforces their beliefs/worldview and ignores evidence that challenges it Blind Spot Bias: the tendency to recognise bias in others’ judgments but not one’s own	Generation, translation, adoption, implementation

COM-B component	Barrier	Description	Evidence use process stage
Motivation	Biases, Attitudes and Perceptions	The 'knowledge/ doing' gap: the tension between generators (especially academic researchers) idealised or 'ivory tower' understanding of the 'real-world' and the lived experiences of practicing end-users Impact Example: Practitioners see an academic as 'the expert' who will solve the organisation's problems, so become deferential and take on the role of an observer rather than a participant in the research process to practitioner becomes dependent on the academic rather than benefiting from resource sharing/ skill transfer *Linked to Trust below	Generation, adoption, implementation
Motivation	Biases, Attitudes and Perceptions	Prestige: the concern of generators, (especially academics) about the value of evidence generation to their career, i.e. as less valuable than academic research for publication; also raises organisational concerns for institutional independence	Generation
Motivation	Trust and Transparency	The END-USERS' perceived credibility (i.e. "the perceived quality, validity and scientific adequacy of people, processes and knowledge exchanged") (footnote 19) of research evidence, depending perceived credibility of the message itself, the communication mechanism and the authority of the generator/ translator (which may change over time): Distrust (for example, misinformation, controversial evidence, poor relationships) can cause false causal attributions for end-users and the public which are extremely difficult to change Two-way communication (for example, feedback from audience members) positively influences trust and transparency due to • more inclusive methods • perception of process as 'more fair' • perception of research outputs as more legitimate, less biased and more representative	Generation, translation, adoption, implementation
Motivation	Complexity and uncertainty	The loss of context and caveats for research findings due to time pressures and limited 'attentive capacity' (see above), causes findings to seem more conclusive than they actually are.	Translation, implementation
Motivation	Complexity and uncertainty	Conflicting, unclear and/or unavailable evidence (for example, GMOs, reduced meat consumption, etc.) contributing to distrust and increased bias (see above)	Generation, translation, adoption, implementation
Motivation	Complexity and uncertainty	Timescales: uncertainty about salience and impact of evidence over time (for example, shifts in policy/ priorities, adaptation to unexpected crises, etc.) and Variable timetables for generators/ translators (especially academics) and end-users; for example, academics work on longer timetables whereas end-users often work based on specific (time-sensitive) needs	Generation, dissemination, adoption, implementation
Motivation	Complexity and uncertainty	Uncertainty over the credibility of information, its relevance and the future direction of policy or practice	Adoption, implementation
Motivation	Complexity and uncertainty	Unpredictability of future events, needs and contexts causes radical changes to be less acceptable socially and politically (see 'biases')	Adoption, implementation

COM-B component	Barrier	Description	Evidence use process stage
Behaviour change impacts	Variable impacts of implementation actions	The differences of impact and contextual applicability to different socio-demographic groups, influenced by: • socioeconomic status • cultural norms • location • age • gender • race	Adoption, implementation
Behaviour change impacts	Variable impacts of implementation actions	Single-measure success scales (for example, GDP, obesity rate reduction, etc.) to determine intervention impact cause oversimplification of complex challenges and add to perceptions of 'silver-bullet' solutions; Multi-criteria measures are perceived to be 'best practice' and are more commonly recommended (footnote 20)	Implementation
Behaviour change impacts	Variable impacts of implementation actions	Specificity and applicability of implementation actions (for example, general rules vs. specific solutions): conflicting or mismatching evidence between generalised research findings/ national guidance and local context *contributes to evidence 'complexity' and 'distrust' (see above)	Adoption, implementation

Source: Authors informed by literature, including: Grimshaw et al. (2012); Brick et al. (2018); Atkins et al. (2017); Schoen et al. (2017); Warira et al. (2017), etc.

What are the enablers of evidence use for policy and practice?

This section outlines key enablers of effective evidence use found in the literature. It is important to note, however, that effective evidence use closely depends on the purpose, desired outcomes and context of the research. For each enabler, the relevant stakeholder group, the applicable stage of the evidence use process and related barrier(s) that could be addressed are listed. Two participant stakeholder groups, health practitioners and third sector actors (see Table 1), were the subject of specific literature so a separate section with additional enablers / interventions that are particular to these evidence users is included.

Table 3. Cross-sector Enablers of Evidence Use

Enabler	Description	Relevant Actor Group(s)	Evidence use process stage	Related Barrier(s)
Clarity	Findings and recommendations should be clear and concise; (footnote 21) discussion should be kept short to avoid overwhelming the audience with information and complexity (footnote 22). Language used should be selected to match the knowledge base of the audience and common terms and phrases should be prioritised over jargon (footnote 23).	Generators, Translators	Generation, Translation, Dissemination, Adoption	Comprehensibility, attentive, capacity, inappropriate/lack of skills/knowledge, ineffective presentation

Enabler	Description	Relevant Actor Group(s)	Evidence use process stage	Related Barrier(s)
Adapt to the audience	Consideration should be given to the resources, needs, capacity and interests of the audience and materials accordingly (footnote 24). Using multiple mechanisms (email, seminar, toolkits, etc.) can ensure the information caters to different learning styles, as can balancing auditory and visual presentations (footnote 25). Regularly follow-up and communicate with busy policymakers and practitioners throughout the stages of the research to increase engagement and interest (footnote 26). Provide quick summaries and take-aways to aid with comprehension (footnote 27).	Generators, Translators	Generation, Translation, Adoption, Implementation	Comprehensibility, inappropriate /lack of skills/knowledge, unmanageable volumes of evidence, attentive capacity, ineffective presentation, salience, biases, complexity and uncertainty, variable impacts.
Use of visuals	Aesthetically pleasing and easy-to-understand visuals help with quick and easy information processing (footnote 28); Headings, graphs, tables, charts, icons and infographics save space and convey complex information quickly (footnote 29); Use contrasting colours and be consistent with designs and formatting (footnote 30).	Generators, Translators	Translation, Adoption, Implementation	Comprehensibility, attentive, capacity, ineffective presentation, biases, complexity and uncertainty.
Selecting frames	Framing occurs when a communicator emphasises specific aspects of a topic, which in turn influences how the topic is understood by the audience (footnote 31). Like any evidence interpretation, carefully consider how much emphasis, and of which aspects of the data (footnote 32). Evidence is often perceived to be 'neutral' rather than 'persuasive', but framing influences which message is conveyed (footnote 33). Because of this, decide whether to be an 'issue advocate' (for example, persuasive) or an 'honest broker' (for example, as neutral as possible). (footnote 34) Be explicit about what is evidence and what is interpretation within the message (footnote 35). Despite these risks, frames can be used to guide audiences to clear conclusions (footnote 36). It presents evidence in a way that appeals to policymakers and practitioners while demonstrating its relevance (footnote 37).	Generators, Translators	Translation, Adoption	Comprehensibility, unmanageable volumes of evidence, attentive capacity, ineffective presentation, unequal coverage, salience, biases, trust, complexity and uncertainty.
Timing	Be strategic about when to present research and make it as convenient and accessible as possible (footnote 38). Frequent and ongoing communication throughout the project is often more useful than one summative presentation at the end (footnote 39). Send update emails, with key takeaways concisely summarised, 'bitesize' presentation sessions and informal conversations over coffee or lunch to keep the audience engaged in the research and receptive to evidence findings (footnote 40).	Generators, Translators	Dissemination, Adoption, Implementation	Unmanageable volumes of evidence, attentive capacity, ineffective presentation, salience, biases, complexity and uncertainty.

Enabler	Description	Relevant Actor Group(s)	Evidence use process stage	Related Barrier(s)
Engaging with 'the practical'	The policymaking process is often idealised as linear and predictable (footnote 41). In practice, however, policymaking is usually messy, complicated and non-linear (footnote 42). To effectively influence policy and practice, understand how these processes work and identify at which stages evidence will have the most impact (footnote 43). Communicating at convenient opportunities; identifying the most relevant person or audiences with the capacity to influence change; and tailoring the messages to suit that audience can make the difference between evidence being adopted or rejected (footnote 44).	Generators, Translators, end users	Generation, Translation, Dissemination, Adoption, Implementation	Resources organisational complexity, inappropriate lack of skills/knowledge, unmanageable volumes of evidence, attentive capacity, ineffective presentation, limited access, salience, biases, trust and transparency, complexity and uncertainty.
Building and sustaining relationships	Relationships are critical to effective communication and have large impacts on trust, message clarity and relevance (footnote 45). Build more engagement and project credibility by working directly with higher management (in both industry and policy) (footnote 46). Develop diverse networks and contacts by taking advantage of informal channels such as coffee, lunchtime seminars and distributing research PDFs via email (footnote 47). When 'cold calling' journalists, policymakers or practitioners, always include a quick self-introduction, a clear statement of why that person is being contacted and a clear ask that is within the person's work remit and interests (footnote 48). Put in the effort early on to build these relationships and sustain them over time to gain direct experience with the practical decision-making process and adapt to the audience more effectively (footnote 49).	Generators, Translators, end users	Generation, Translation, Dissemination, Adoption, Implementation	Organisational complexity, comprehensibility, attentive capacity, ineffective presentation, limited access, salience, biases, trust and transparency, complexity and uncertainty.
Salience and relevance	Policymakers and practitioners are more receptive to evidence when it is salient and relevant to their interests and priorities (footnote 50). Consider the needs, political and social context of the research topic and the capabilities (in terms of resources, time and decision-making ability) of both the research team and the audience (footnote 51). Learn about the decision-making process(es) to strategically provide evidence on topics that are timely and already of interest to decision-makers (footnote 52). Likewise, stay up-to-date on current policy practices and consider the current political landscape in research design to stay relevant (footnote 53).	Generators, Translators	Generation, Translation, Adoption, Implementation	Attentive, capacity, ineffective presentation, Salience, biases, trust and transparency.

Enabler	Description	Relevant Actor Group(s)	Evidence use process stage	Related Barrier(s)
Building capacity	Both policy makers/practitioners and research teams have restricted capacities in terms of resources, time availability and knowledge base (footnote 54). Early career researchers (ECRs) in particular can struggle with effectively translating and communicating evidence for adoption into policy and practice (footnote 55). Tailored training for researchers, based on their research stage and knowledge of practical decision-making processes, is one enabling strategy to address this (footnote 56). Likewise, increased provision for research funding and incentives for research contributions could help address resource and time constraints for researchers (footnote 57). Training for policymakers and practitioners on specialised research topics, understanding complexity and reading scientific reports would likewise enable better translation and comprehension of evidence (footnote 58).	Generators, Translators, end users	Generation, Translation, Adoption, Implementation	Resources, comprehensibility, inappropriate lack of skills/knowledge, attentive capacity, limited access, salience, biases, trust and transparency.

Source: Schoen et al. (2017)

Enablers identified for specific stakeholder groups

Along with the more general findings on evidence use enablers outlined above, the review highlighted some stakeholder specific findings related to health professionals and third sector practitioners.

Health Professionals

Implementation science describes 'various concerted strategies (also referred to as implementation interventions, facilitators, enablers, etc.) to influence the implementation process in order to achieve desired changes in clinical practice' including those listed in Table 4 below (footnote 59).

Table 4: Enablers of evidence use for Health Professionals

Enabler/Intervention	Details	Effectiveness (footnote 60)
Printed Educational Materials	Published or printed recommendations for clinical care including, clinical practice guidelines, audio-visual materials, and electronic publications. Target: knowledge and potential skills gap; no evidence they target motivation	Moderately effective
Educational meetings	Conference, lectures, workshops, traineeships	Moderately effective
Education outreach	Use of a trained person to meet with providers to give information with aim to change provider practices.	Moderately effective for simple behaviours (for example, prescription)
Local opinion leaders	Target knowledge and skills of their peers, not a formal position but due to reputation in the field and activities.	Moderately effective
Audit and feedback	'summary of clinical performance of healthcare over a period of time'. Performance can be identified via medical records, computerised databases, observation. Target healthcare providers perceptions of performance levels.	Moderately effective
Reminders	Prompts on paper or computer screen for health professional to recall information	Moderately effective when baseline compliance was low.

Enabler/Intervention	Details	Effectiveness (footnote 60)
Tailored interventions	Strategies to improve professional practice which take into account barriers (e.g. information management, clinical uncertainty) for change prospectively	Highly effective
Multi-faceted interventions	Interventions targeting multiple barriers.	Unclear - more research needed.

Source: Author from Grimshaw et al (2012)

Third Sector

Enabler/Intervention	Details
Knowledge Brokers	As intermediaries between academics, practitioners and policy makers.
Secondment	Long-term relationships with non-academic partners, including secondment opportunities for academic staff members
Project Advisory Groups	Academics can be brought onto CSO Boards, Steering Groups or Advisory Panels. The Carnegie UK Trust recommends the use of Project Advisory Groups including policy and practice partners relevant to the research project, as a means of informing the research, promoting impact and developing relationships.
Long-term relationships	Relationships should be sustained between research projects.

Source: Schoen et al. (2017)

Diet shift enablers and barriers

The barriers and enablers described in the past section typically relate to evidence use for policy although most, if not all, could also be applied to evidence use for practice. As stated in the scoping review, there is very little available literature on current evidence use practices and barriers to and enablers of evidence use in practice, especially in food systems. For this reason, the researchers identified barriers and enablers that cut across different sectors and actor groups throughout the evidence use process. Sector-specific enablers to relevant diet shift actor groups, health practitioners and third sector actors, were also included. Broadly speaking, all of the above barriers and enablers could, in theory, apply to diet shift evidence users. To determine whether or not that is the case in practice, and if there are any barriers and enablers that are specific to diet shift and not included, the project also included primary qualitative research with 30 food policymakers and practitioners in England.

Primary Research findings

This section sets out the findings from the primary research, which included a series of interviews with government (national and local), private and third sector representatives, two practitioner workshops (retail and local practitioners), retailer discussions, and a series of feedback sessions to refine our results. The authors conducted a thematic analysis to draw out key themes from the data.

Both the primary data collection combined with the rapid evidence synthesis provided the evidence for the eight Guiding Principles (see Guiding Principles document). From the thematic analysis coupled with the co-creative feedback sessions a set of key themes have emerged for both better evidence generation and better evidence translation. The themes are presented below with associated guiding principles coupled with illustrative quotes. In addition, a set of barriers and enablers to evidence use have also been identified below.

Better Evidence Generation

Four key categories have been identified for better evidence generation, including the need to:

- practice more interdisciplinary food systems approaches
- employ greater co-creative and inclusive approaches to evidence generation to develop genuine partnerships with stakeholders
- develop greater understanding of the policy process, actors and politics
- ensure credibility of research design and data

Practice more interdisciplinary food systems approaches

Guiding Principle 1

A common theme throughout the workshops and interviews across all sectors was the need for more interdisciplinary food systems evidence generation to tackle complex challenges facing the food system. One of the policy maker informants explains:

“Just to emphasise again the importance of embracing a food systems approach to everything that we do to develop comprehensive modelling and scenario analysis, that there is consideration of socioeconomic impacts and that we embrace multidisciplinary approaches in the way we develop our evidence base. Yes, we developed the evidence jointly with a wide range of academic communities. We need to make sure that different viewpoints are considered and that's part of the evidence, a systems approach allows you to hear different viewpoints. Sometimes we tend to treat evidence as academic findings and, again, you can get very important insights from talking to any stakeholder that is not an academic and that's part of the evidence base as well. So it's developing that common understanding of improving a situation again considering the viewpoints of the whole system and not just one particular group” (Policy Maker informant).

Employ greater co-creative and inclusive approaches to evidence generation to develop genuine partnerships with stakeholders (including evidence brokers, citizens etc.)

Guiding Principle 2

This was a common theme raised in the primary data collection in both the interviews and workshops and is illustrated by one of our informants as follows:

“Our Children's Future Food Inquiry was quite a good example, where we combined a lot of new analysis of national data, information from evidence brokers plus we did a big consultation and we had lots with young people from all different demographics, and we had that sort of integrated throughout and that was a very visually accessible report that you could just dip in and out of” (Third Sector Food Organisation Informant).

Develop greater understanding of the policy process, actors and politics

Guiding Principle 3

This was illustrated during our workshop with small medium-sized food retailers who discussed in depth how they work with their trusted suppliers to source evidence to inform their food procurement policy. This shows the importance of understanding the processes in different sectors:

“To decide what to source we have conversations with our suppliers based on customers’ concerns; our suppliers generally have some criteria for what ‘sustainable’ means in mind (i.e. local, free-range, carbon footprint, etc.). We make a big thing of Local sourcing particularly for meat. It's important we know where the meat comes from and our local supplier can provide the required traceability and quality we prefer. UK meat has higher quality and welfare standards than

US and Australia sourced meat".

Ensure credibility of research design and data

Guiding Principle 4

A common theme in both the workshops and interviews was the importance of credible research design and data. One informant explained:

"I would say there are some trusted organisations that we would look to that publish evidence. Things like the IPPC, and other panels like that who produce credible data. I think methodology is the key thing. I would always look at what methodology was used, what assumptions within that methodology. If you can understand that methodology in more detail, so for example, if it is an LCA, what are the system boundaries, etc.? That's probably the most important thing. In terms of something like interviews or focus groups, or something where you're talking to the public, what I would want to see there is how many people have you spoken to? What type of people have you spoken to? Then how that's brought through really into the report or the study".

Better evidence translation

We have identified from the primary data two key categories for better translation which relate to our Guiding Principles, including the needs to:

- enhance of evidence presentation and communication by easy-to-follow guides and language, being visual and concise, and timing dissemination for optimum impact; and
- enhance skill development for evidence generators and users.

Enhance evidence presentation and communication with easy-to-follow guides and language, being visual and concise, and timing dissemination for optimum impact

Guiding Principles 5, 7, 8

This theme was supported by a number of illustrative examples in our primary data collection. First, from an interview with one of our informants:
"It's a really short process infographic, but it shows the different steps involved in, well, between a chicken sandwich that an individual might eat, and global biodiversity loss, essentially. It shows the chicken sandwich, then it shows the soy that's being grown. It shows the rainforest being cut down, and then that link to the loss of biodiversity. I feel that because that's quite a complicated message to communicate, having pictures, and having it in that process as simple language is a really good way to get that message across - and is relatable as well, with the chicken sandwich".

Second, from one of our workshop participants:

"The Liverpool Good Food Plan has no published document -- it's an interactive website complimented by five short animations that are voiced by people with lived experience; it was six months of work that did not have a written output. It's critical to engage with the media and others outside of the established network, but this is increasingly difficult due to the 'adversarial nature' of media communication today".

Enhance skill development for evidence generators and users

Not included in guiding principles because it is an organisational/ systemic issue that cannot be fully addressed by evidence generators

A key theme emerging in the interviews and workshops was the need for more capacity building and training for both evidence users and generators. This is shown below in our illustrative quotes.

“So it is for us very important that we can communicate complex technical information into clear messages that can be translated into policy action. That's probably one of the most important skills for the evidence specialists working on policy. We spend a lot of time building training capacity in this area. Make sure nothing is lost in that translation and the translation reflects all the technical complexity that might be involved in the development of the evidence. So it is quite a challenging and difficult skill to accomplish and needs training and learning”

“I've said this many times before, for a long time, that I don't think there's any difference between policymaking, policy delivery and scientific progress. It's just that, let's say, we tend not to recognise it that way, but I think we would all benefit hugely from recognising that actually, we're all scientists in a sense, and we're all trying to develop a more objective view of the world. There needs to be much more emphasis on skill development for both evidence users and generators and much more joint understanding of the respective roles and much more joint training”.

1. Sources: Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) ‘Never the twain shall meet? a comparison of implementation science and policy implementation research,’ Implementation Science, 8(63); Oliver, K. and Boaz, A., 2019. Transforming evidence for policy and practice: creating space for new conversations. Palgrave Communications, 5(1), pp.1-10.

2. Sources: Balian, E. V. et al. (2016) ‘Supporting evidence-based policy on biodiversity and ecosystem services: recommendations for effective policy briefs,’ Evidence & Policy, 12(3); Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication; Evans, M. C. and Cvitanovic, C. (2018) ‘An introduction to achieving policy impact for early career researchers,’ Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) ‘How government can work with academia,’ Institute for Government; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Oliver, K. and Cairney, P. (2019) ‘The dos and don’ts of influencing policy: a systematic review of advice to academics,’ Palgrave Communications, 5(21).

3. Sources: Balian, E. V. et al. (2016) ‘Supporting evidence-based policy on biodiversity and ecosystem services: recommendations for effective policy briefs,’ Evidence & Policy, 12(3); Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication; Evans, M. C. and Cvitanovic, C. (2018) ‘An introduction to achieving policy impact for early career researchers,’ Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) ‘How government can work with academia,’ Institute for Government; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Oliver, K. and Cairney, P. (2019) ‘The dos and don’ts of influencing policy: a systematic review of advice to academics,’ Palgrave Communications, 5(21).

4. OECD (2021a) ‘Making better policies for food systems: Executive summary,’ ‘Making better policies for food systems: Executive summary,’ OECD iLibrary.

5. What Works Network (2018) ‘The What Works Network: Five Years On,’ What Works Network.

6. What Works Network (2018) ‘The What Works Network: Five Years On,’ What Works Network.

7. What Works Network (2018) ‘The What Works Network: Five Years On,’ What Works Network.

8. Atkins et al. (2017) ‘Reversing the pipeline? Implementing public health evidence-based guidance in English local government,’ Implementation Science, 12(63).

9. Sources: Langer, L., Tripney, J. and Gough, D. (2016) ‘The science of using science: researching the use of research evidence in decision-making,’ UCL Institute of Education; Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

10. Sources: Langer, L., Tripney, J. and Gough, D. (2016) ‘The science of using science: researching the use of research evidence in decision-making,’ UCL Institute of Education; Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

11. Sources: Nilsen, P., Stahl, C., Roback, K. and Cairney, P. (2013) ‘Never the twain shall meet? a comparison of implementation science and policy implementation research,’ Implementation Science, 8(63); Grimshaw, J.M., Eccles, M.P., Lavis, J.N., Hill, S.J. and Squires, J.E., 2012. Knowledge translation of research findings. Implementation science, 7(1), pp.1-17; Results for Development (2018) ‘Scoping Study: Evidence translators’ role in evidence-informed policymaking: A brief on evidence translation and translators; What Works Network (2018) ‘The What Works Network: Five Years On,’ What Works Network.

12. What Works Network (2018) ‘The What Works Network: Five Years On,’ What Works Network.

13. Oliver, K. Hopkins, A., Boaz, A., Guilot-Wright, S. and Cairney, P. (2021). ‘What works to promote research–policy engagement,’ Preprint.

14. Sources: Results for Development (2018) ‘Scoping Study: Evidence translators’ role in evidence-informed policymaking: A brief on evidence translation and translators; Warira et al. (2017) ‘Achieving and sustaining evidence-informed policy making: effective communication and collaboration can go a long way,’ Science Communications, 39(3), p. 382-394; Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

15. Lang, T. and Heasman, M. (2015) Food Wars: The global battle for mouths, minds and markets. (2 edn), Oxon: Routledge.

16. Sources: Department for Business, Energy and Industrial Strategy (2021) 'Closed consultation: Independent review of research bureaucracy,' Gov.uk; Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Brick, C. et al. (2018) Winners and losers: communicating the potential impacts of policies. Palgrave Communications, 4(69); Grimshaw, J.M., Eccles, M.P., Lavis, J.N., Hill, S.J. and Squires, J.E., 2012. Knowledge translation of research findings. Implementation science, 7(1), pp.1-17; Akin, H. and Landrum, A. R. (2017) 'A recap: heuristics, biases, values, and other challenges to communicating science' in Oxford Handbook of the Science of Science Communication; Dovidio, J. F. and Gaertner, S. L. (2007) 'Communicating basic behavioral science beyond the discipline: reflections from social psychology' in Handbook on Communicating and Disseminating Behavioural Science, p. 93-109; among others.

17. Brick, C. et al. (2018) Winners and losers: communicating the potential impacts of policies. Palgrave Communications, 4(69).

18. Druckman, J. and Lupia, A. (2017) 'Using frames to make science communication more effective' in Oxford Handbook of the Science of Science Communication.

19. Warira et al. (2017) 'Achieving and sustaining evidence-informed policy making: effective communication and collaboration can go a long way,' Science Communications, 39(3), p. 382-394.

20. Atkins et al. (2017) 'Reversing the pipeline? Implementing public health evidence-based guidance in English local government,' Implementation Science, 12(63).

21. Sources: Bazalgette, L. (2019) Supporting evidence-informed children's social work: Creating a What Works toolkit, Gov.uk [Blog]; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Dovidio, J. F. and Gaertner, S. L. (2007) 'Communicating basic behavioral science beyond the discipline: reflections from social psychology' in Handbook on Communicating and Disseminating Behavioural Science, p. 93-109.

22. Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

23. Sources: OECD (2021a) Making better policies for food systems: Executive summary. OECD iLibrary; Bazalgette, L. (2019) Supporting evidence-informed children's social work: Creating a What Works toolkit, Gov.uk [Blog].

24. Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

25. Sources: Bazalgette, L. (2019) Supporting evidence-informed children's social work: Creating a What Works toolkit, Gov.uk [Blog]; Phoenix, J. H., Atkinson, L. G. and Baker, H.

(2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

26. Sources: Bazalgette, L. (2019) Supporting evidence-informed children’s social work: Creating a What Works toolkit, Gov.uk [Blog]; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

27. Sources: Bazalgette, L. (2019) Supporting evidence-informed children’s social work: Creating a What Works toolkit, Gov.uk [Blog]; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

28. Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); *See also: Brick, C. (2020) What works for What Works: How to communicate effectively, Gov.uk [Blog].

29. Sources: Brick, C. (2020) What works for What Works: How to communicate effectively, Gov.uk [Blog]; Bazalgette, L. (2019) Supporting evidence-informed children’s social work: Creating a What Works toolkit, Gov.uk [Blog].

30. Sources: Brick, C. (2020) What works for What Works: How to communicate effectively, Gov.uk [Blog]; Bazalgette, L. (2019) Supporting evidence-informed children’s social work: Creating a What Works toolkit, Gov.uk [Blog]; Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98).

31. Sources: Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication; Breckon, J. and Dodson, J. (2016) ‘Using evidence: What works? A discussion paper,’ Alliance for Useful Evidence.

32. Sources: Zampini, G. F. (2018) Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? Palgrave Communications, 4(62); Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37); Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication.

33. Sources: Oliver, K. and Cairney, P. (2019) ‘The dos and don’ts of influencing policy: a systematic review of advice to academics,’ Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) ‘Creating and communicating social research for policymakers in government,’ Palgrave Communications, 5(98); Sohn, J. (2018) Navigating

the politics of evidence-informed policymaking: strategies of influential policy actors in Ontario. Palgrave Communications. 4(49); Zampini, G. F. (2018) Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? Palgrave Communications, 4(62).

34. Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Zampini, G. F. (2018) Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? Palgrave Communications, 4(62).

35. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Sohn, J. (2018) Navigating the politics of evidence-informed policymaking: strategies of influential policy actors in Ontario. Palgrave Communications. 4(49); Zampini, G. F. (2018) Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? Palgrave Communications, 4(62); Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37); Witting, A. (2017) Insights from 'policy learning' on how to enhance the use of evidence by policymakers. Palgrave Communications, 3(49).

36. Sources: Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Zampini, G. F. (2018) Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? Palgrave Communications, 4(62); Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37).

37. Sources: Sohn, J. (2018) Navigating the politics of evidence-informed policymaking: strategies of influential policy actors in Ontario. Palgrave Communications. 4(49); Witting, A. (2017) Insights from 'policy learning' on how to enhance the use of evidence by policymakers. Palgrave Communications, 3(49); Breckon, J. and Dodson, J. (2016) 'Using evidence: What works? A discussion paper,' Alliance for Useful Evidence.

38. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Breckon, J. and Dodson, J. (2016) 'Using evidence: What works? A discussion paper,' Alliance for Useful Evidence.

39. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

40. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

41. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) 'How government can work with academia,' Institute for Government.

42. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) 'How government can work with academia,' Institute for Government.

43. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) 'How government can work with academia,' Institute for Government; Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37).

44. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4); Sasse, T. and Haddon, C. (2018) 'How government can work with academia,' Institute for Government; Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37); Breckon, J. and Dodson, J. (2016) 'Using evidence: What works? A discussion paper,' Alliance for Useful Evidence.

45. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4).

46. Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

47. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career

researchers,' Palgrave Communications, 88(4); Dovidio, J. F. and Gaertner, S. L. (2007) 'Communicating basic behavioral science beyond the discipline: reflections from social psychology' in Handbook on Communicating and Disseminating Behavioural Science, p. 93-109.

48. Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4).

49. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4); Dovidio, J. F. and Gaertner, S. L. (2007) 'Communicating basic behavioral science beyond the discipline: reflections from social psychology' in Handbook on Communicating and Disseminating Behavioural Science, p. 93-109.

50. Sources: Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21); Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Cairney, P. and Kwaitkowski, R. (2017) How to communicate effectively with policymakers: combine insights from psychology and policy studies. Palgrave Communications, 3(37); Breckon, J. and Dodson, J. (2016) 'Using evidence: What works? A discussion paper,' Alliance for Useful Evidence.

51. Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98).

52. Sources: Phoenix, J. H., Atkinson, L. G. and Baker, H. (2019) 'Creating and communicating social research for policymakers in government,' Palgrave Communications, 5(98); Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers,' Palgrave Communications, 88(4).

53. Oliver, K. and Cairney, P. (2019) 'The dos and don'ts of influencing policy: a systematic review of advice to academics,' Palgrave Communications, 5(21).

54. Sources: What Works Network (2018) 'The What Works Network: Five Years On,' What Works Network; Kleibrink, A. and Magro, E. (2018) The making of responsive innovation policies: varieties of evidence and their contestation in Basque Country. Palgrave Communications, 4(74); Druckman, J. and Lupia, A. (2017) 'Using frames to make science communication more effective' in Oxford Handbook of the Science of Science Communication.

55. Druckman, J. and Lupia, A. (2017) 'Using frames to make science communication more effective' in Oxford Handbook of the Science of Science Communication.

56. Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication.

57. Sources: Universities Policy Engagement Network and Fawcett, L. (2021) Opening up Parliament: barriers to engagement and participatory potential -- what academics think. UPEN; Kleibrink, A. and Magro, E. (2018) The making of responsive innovation policies: varieties of evidence and their contestation in Basque Country. Palgrave Communications, 4(74); Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication.

58. Sources: Druckman, J. and Lupia, A. (2017) ‘Using frames to make science communication more effective’ in Oxford Handbook of the Science of Science Communication; Kleibrink, A. and Magro, E. (2018) The making of responsive innovation policies: varieties of evidence and their contestation in Basque Country. Palgrave Communications, 4(74).

59. Grimshaw, J.M., Eccles, M.P., Lavis, J.N., Hill, S.J. and Squires, J.E., 2012. Knowledge translation of research findings. Implementation science, 7(1), pp.1-17.

60. Grimshaw, J.M., Eccles, M.P., Lavis, J.N., Hill, S.J. and Squires, J.E., 2012. Knowledge translation of research findings. Implementation science, 7(1), pp.1-17.

Technical report: Conclusions and future work

The Optimising Evidence project aimed to understand how evidence on what works to shift people towards healthy sustainable diets can be better translated for, and adopted by, food policymakers and practitioners, including retailers and other on-the-ground actors.

The research team conducted both a scoping and rapid evidence review of available evidence use literature and identified 15 different barriers to evidence use and nine enablers for evidence use. The conceptual framework, developed through the scoping review, helped to define the project scope and boundaries while also informing the primary qualitative research, consisting of elite interviews, retailer discussions, workshops, participant interviews and feedback sessions with a total of 30 participants from across the English food system. Participants included representatives from major retailers; third sector, community and nongovernmental organisations; food banks; international and national food campaign and policy organisations; local and national authorities; a regional public health network; local food hubs; and trade associations. The results of this study provide, for the first time to the authors’ knowledge, insight into the current practice, needs and preferences of food retailers and on-the-ground food actors, including both public and private sectors. The outputs of the project include this technical report, a rapid evidence review and the Guiding Principles, published separately and outlining eight different enablers for optimising evidence for diet shift policy and practice. There are opportunities for future research on this topic, including (but not limited to): exploring how effective the Guiding Principles are for optimising evidence use and exploring the impact of increased evidence use on transformational diet shift within the UK. There is also a need to explore innovative institutional structures to facilitate more collaboration and deliberation across and between different sectors, departments and disciplines, as well as explore existing best practices for doing so. Finally, retail and SME

participants discussed opportunities to raise awareness and competence for food industry actors around interdisciplinary food systems thinking.

Appendix A: Generation Mechanisms table

Rows are marked to signify effective, non-effective, partially-effective or undetermined (based on available literature).

Table 7 Mechanisms for Evidence Generation

Mechanism	Generation type/Description	Challenges	Benefits	Target audience	Effectiveness
Calls for evidence (partially effective)	Pull: public call for evidence, often by a government entity, on a particular salient topic/issue (footnote 1)	Clarity; relevance to terms of reference	Formal, direct engagement with policymakers	Policymakers; decision-maker practitioners	Moderately effective; require more strategic planning of purposes and goals.
Deliberation platforms (effective)	Co-creation: "a mechanism through which stakeholders with diverse perspectives can both discuss problems and explore potential solutions" for a political issue (footnote 2)	Scale and context; Participant diversity and representation; Bias (participants and facilitator); Clarity and transparency; Engagement	Fosters mutual understanding; Crosses sectors and disciplines; Encourages social learning; Collaborative engagement	Policymakers; researchers, practitioners	Effective when specific conditions are met: 1) long-term perspective; 2) mutualistic/ collaborative
Funded Commissions (effective)	Pull: research funded directly by government bodies or other funders, focused on a specific topic or need	Navigating politics, Time capacity, Coverage, Credibility, Scale and context	Funded; Direct engagement with policymakers/ practitioners	Government bodies, Industry, Third sector, NGOs	Effective for both short- and long-term policy decisions
Professional Partnerships (effective)	Co-creation: "policy/ practice- research collaborations, usually with a limited lifespan" (footnote 3) (footnote 4) (i.e. expert elicitation, committees, networks, Areas of Research Interest, etc.)	Scale and context, Navigating politics, Long-term impact	Often funded; Direct engagement with policymakers/ practitioners; Fosters mutual understanding	Researchers and policymakers/practitioners	Highly effective under specific conditions: 1) funded, 2) long-term perspective, 3) mutualistic/ collaborative in nature
Training and fellowships (undetermined)	Co-creation: formal skills development scheme, often funded (i.e. skills training), secondments, internships, fellowships.	Engagement, Unpredictable knowledge base, Clarity, Comprehension	Direct engagement, Capacity-building, Potentially funded	Researchers and policymakers/practitioners	Unclear/mixed/unavailable evidence on effectiveness.

Source: Authors informed by Warira et al. (2017), Ferrari, M. (2017) and Gerard, Koch & Kowarsch (2018)

1. Breckon, J. and Dodson, J. (2016) 'Using evidence: What works? A discussion paper,' Alliance for Useful Evidence. Available at: https://media.nesta.org.uk/documents/using_evidence_what_works.pdf

2. Garard, J., Koch, L. and Kowarsch, M. (2018) 'Elements of success in multi-stakeholder deliberation platforms,' Palgrave Communications, 4(129). Available at: https://www.nature.com/articles/s41599-018-0183-8

3. Sources: Parsons, K. and Barling, D. (2021). Food Systems Transformation - What's in the Policy Toolbox?. A Report for the UKRI Transforming UK Food Systems Programme. Available at: https://www.foodsecurity.ac.uk/research/foodsystems-spf/outputs/; OECD

(2021a) ‘Making better policies for food systems: Executive summary,’ OECD iLibrary, Available at: https://www.oecd-ilibrary.org/sites/ddfba4de-en/index.html?itemId=/content/publication/ddfba4de-en

4. Sasse, T. and Haddon, C. (2018) ‘How government can work with academia,’ Institute for Government. Available at: https://apo.org.au/sites/default/files/resource-files/2018-06/apo-nid248641.pdf

Appendix B: Communication and Dissemination Mechanisms table

Rows are marked to signify effective, non-effective, partially-effective or undetermined (based on available literature).

Table 8: Mechanisms for Evidence Communication and Dissemination

Mechanism	Description	Challenges	Benefits	Target audience	Effectiveness
Briefs (non-effective)	“A concise standalone document that prioritises a specific policy issue and presents the evidence in a non-technical and jargon-free language; in general, the purpose is to distil or synthesise evidence with the intention of influencing thinking and actions of policy actors”	Clarity and maintaining concise messaging; Bias; Comprehension and unpredictable knowledge base of audience	Relevant and salient (often commissioned); Easy comprehension; Direct engagement on specific topic	Policymakers, third-sector practitioners, think tanks, corporate executives	Largely ineffective for addressing institutional/ structural barriers
Blogs and social media (partially effective)	Quick summaries and highlights of key findings from scientific research, written colloquially	Clarity and maintaining concise messaging; Credibility and bias; Relevance and salience	Open-access; Easy comprehension; Convenient	Policymakers, decision-makers, practitioners, public	Effective for reaching a wide audience and building awareness; Unclear/mixed for influence on policy/ practice
Conferences and Seminars (non-effective)	Formal oral and (sometimes) visual presentations (in person and virtual) of evidence to a group	Engagement; Clarity and maintaining concise messaging; Comprehension and unpredictable knowledge base of audience	Common venue; Often funded; Recognition	Policymakers, practitioners, public	Ineffective for influencing policy and practice
Data visualisation (effective)	Using design principles to communicate complex information (for example, graphs, charts, icons, etc.)	Clarity; Balancing complexity while being concise; Bias	Easy comprehension; Engaging; Accessible	Policymakers, practitioners	Highly effective when done well
Toolkits (partially effective)	Practical guides/ handbooks on possible ways to adopt and implement evidence	Clarity; Coverage; Relevance and usefulness	Easy comprehension; Practical to adopt	Policymakers, practitioners	Moderately effective when tailored to audience needs

Source: Authors informed by Balian et al. (2016); Breckon & Dodson (2016)

Appendix C: Gaps in the evidence use process

Different gaps which may occur in the evidence use process are then identified, for example evidence may be applied by policymakers but policies may not be implemented, meaning evidence is not actioned.

Table 9 Potential gaps in the evidence use process

The blurred actor roles and complex pathways between the different stages of the evidence use process mean there is no single type of evidence use gap (for example an evidence-policy adoption gap, or a policy-practice gap). There are a range of potential evidence use gaps that may arise between the different stages and stakeholder groups of the evidence use process, detailed in Table 9.

Evidence Use Gap	Details
Reality and Research	Evidence on problem x or solutions y, z does not exist or incomplete (footnote 1) Types of research gap: • evidence has not been collected at all • evidence is not complete (for example, Interventions are made but are not evaluated for effectiveness) • evidence is not applicable to relevant context (for example, geography, population not equivalent) • evidence which exists is fragmented (for example, across disciplinary fields) and not synthesised
Research and Policy-making ('science-policy interface'; 'knowledge transfer')	Evidence exists but does not reach/is not understood by policymakers Evidence is understood by policymakers but is not reflected in policy.
Research and Commercial Practice ('knowledge transfer'; 'technology transfer'; knowledge transfer partnerships; 'diffusion of innovations')	Evidence exists but does not reach/is not understood by businesses OR Reaches businesses but is not reflected in their practice.
Policymaking and policy Adoption (by deliverers)	Evidence is reflected in policy but the evidence-based policy is not disseminated to/adopted by deliverers.
Policy Adoption and Policy Implementation (by practitioners)	The evidence-based policy is disseminated to and (theoretically) adopted by deliverers but not implemented (effectively) in reality.
Policy Implementation and Policymaking	Implementation issues are not monitored and not used to inform policymaking/adaption.

Source: Authors

The evidence use gaps identified above helped to inform the selection of relevant literature for the rapid evidence review. Some of the gaps from Table 4 can also be considered barriers to the uptake of evidence into policy and practice, presented in the results section.

1. Sources: Parsons, K. and Barling, D. (2021). Food Systems Transformation - What's in the Policy Toolbox?. A Report for the UKRI Transforming UK Food Systems Programme. Available at: https://www.foodsecurity.ac.uk/research/foodsystems-spf/outputs/; OECD (2021a) 'Making better policies for food systems: Executive summary,' OECD iLibrary, Available at: https://www.oecd-ilibrary.org/sites/ddfba4de-en/index.html?itemId=/content/publication/ddfba4de-en.

Appendix D: Elite Interview Design Guide

Protocol:

Participant recruits will be contacted via email with an invitation to participate in the ‘elite interview’ study. The initial email will provide an overview of the project and include details such as the project’s aims and goals, the time commitment for the participant (approx. 30 minutes to one hour) and an assurance of anonymity. If the recruit is open to participate, they will then be sent the Participant Information Sheet and relevant consent forms, along with potential dates for the interview. The signed consent form must be returned before the interview takes place. All contacts, responses and progress will be recorded on the Participant Contact document on the ‘tracker’ tab. Once the interview date has been selected and confirmed, a Zoom calendar invitation will be sent via email. A reminder for the interview, along with the meeting details, will be sent approximately one week before the agreed date. All interviews will be recorded via Zoom (securely stored on the University of York cloud system) and transcribed and analysed using NVIVO software.

Script:

Introduction (5 mins):

- interviewer introduction (name, role in project)
- review of project overview and aims:
- this project will address the role of evidence in policy/practice related to sustainable and healthy diets, focusing specifically on how evidence is communicated by researchers to policymakers and practitioners, and used by them. Your participation is voluntary and you have the opportunity to withdraw from the study at any point up until 10 November 2021. More information about how to do this and what will happen with your information is provided on the Participant Information Sheet.
- confirmation of consent and anonymity
- announcement of recording start

Questions (30-40mins):

- where do you/the stakeholder group you represent get evidence from?
- which organisations?
- which mechanisms/formats? (prompt: policy briefs; reports; webinars; newsletters; events; professional networks; peers; social media)
- what are the current guidelines for evidence communication and adoption for you/ the stakeholder group you represent?
- what are your needs for evidence in your experience? To what extent does current evidence meet those needs?
- would you discuss a recent example of a time that:

? you needed evidence?
? you needed to use or implement evidence?

- how do you prefer evidence to be communicated to you? (prompt: format/ style/ framing/ length i.e. medium [policy briefs; reports; webinars; newsletters; events; professional networks; peers; social media]; format [narrative; statistics; figures and tables; infographics; images; video])
- do you prefer evidence to be presented with or without specific recommendations for action? (prompt: one course of action or multiple options for action?)
- what do you need to know about a piece of evidence when you’re judging its usefulness for you? (prompt: include details on effectiveness; evidence quality; financial costs; potential harms or stakeholder impacts; contextual applicability; comparison with other cities/countries; perceived credibility [for example, quant versus qual]).

- what makes it difficult for you to access, absorb and implement evidence? (prompt: format; timeliness; lack of guidance/training on how to understand evidence; credibility; political/ industry/ public acceptability; money)
- how do you believe these difficulties for evidence could be addressed?
- what makes it easy for you to use and implement evidence? (prompt: timeliness of evidence; political/ industry/ public acceptability; access; credibility; money)
- if evidence generators could do one thing better for you, what would it be? (prompt: accessibility, format, length)
- what role does research evidence have in UK food policy/food advocacy/food industry practice/food practitioners?
- do you have any further comments on the topic of evidence communication and implementation on sustainable and healthy diets?

Wrap-up:

Thank you for your time and participation with this interview. We aim to complete this project by 26 November 2021 and to disseminate our findings shortly after. We are happy to share these with you directly if you're interested!

Appendix E: Workshop Design Guide

Overview/ purpose:

The academic team (UoY/ UH) will conduct a total of three workshops with separate events for each audience (national and local policymakers; public sector practitioners; and commercial practitioners). The purpose of these workshops is to understand inductively the needs of the different audiences to inform a set of principles for translating evidence to, and influencing adoption into practice, for each audience. Data from the workshops will be synthesised and key findings will be tested in a smaller feedback session comprising a representative sample of the workshop participants.

End-user groups and recruitment:

For the purposes of this project, an 'end user' is understood as an individual or organisation professionally involved, either directly or indirectly, in the provisioning of food and, as such, are in a position to influence what people eat. End-users are categorised into the following groups:

- National and local POLICYMAKERS (health/ safety/ standards, environment, trade, agriculture, industry, public health, planning, business/ economic, education);
- Public sector/ PROFESSIONAL PRACTITIONERS (health professionals, public sector food procurement, education-on-diet practitioners, third sector practitioners); and
- COMMERCIAL PRACTITIONERS on the consumption end (retailers, caterers, restaurants)

Participants will be recruited from our networks throughout the food system. During the recruitment process, we will pay particular attention to diversity of organizational type and expertise to ensure appropriate spread/ representation between the different groups. Recruits will be contacted via email in the first instance and sent digitally the Participant Information Sheet and relevant consent forms. The workshops themselves will be conducted digitally via Zoom; confirmed participants will be sent the relevant joining information 1-2 days before the scheduled

workshop date.

Session aims:

The workshops include three separate workshop sessions, organised for the above audiences (for example, 1a. policymakers, 1b. public sector/ professional practitioners, 1c. commercial practitioners). The aim of these workshops is to listen and understand the needs of the different audiences and what influences their decision-making regarding healthy sustainable diets, to inform the development of a set of principles for translating evidence to influence adoption into practice. Breakout rooms will be randomly assigned on the day, based on total participant numbers per workshop. The workshops will be inductive, based on the following questions:

- who is responsible for making decisions / implementing changes in their area of work (for example, who do we need to communicate evidence to/ influence?)
- how they make decisions/ what informs these decisions (What do they currently consider? Do they consider any evidence at the moment? If yes, what evidence? How is this communicated to them? If not, why not?) (including the role of intermediary organisations such as professional bodies)
- have they recently made any changes to encourage healthy sustainable diets? What changes have they made? Why did they make these changes?
- barriers to and enablers for translation and adoption of evidence for healthy, sustainable diets
- needs for understanding, translating and adopting evidence for healthy, sustainable diets (for example, end-user needs for form, format, design, presentation and type of evidence on a particular intervention in order to be most likely to implement it)

Pre-workshop task for Participants

To help participants prepare for the workshops we will set a pre-workshop task and ask them to think about an example of a decision or change that has occurred in their place of work, ideally related to healthy sustainable diets (who made the decision, what information sources did they use, why was the decision made etc.). This will support more considered responses during the workshops. Workshop questions are as follows:

Question overview:

- how is evidence used to inform decision making?
- who is responsible for making decisions / implementing changes in your area of work (for example, who do we need to communicate evidence to/ influence?)
- how do you make decisions/ what informs these decisions?
- what do you currently consider?
- how important is evidence to you and to what extent are you motivated by this evidence?
- what would ‘good’ evidence translation look like to you and why?
- what evidence if any are you currently considering/adopting and implementing at the moment? If yes, what evidence? How is this communicated to you?
- what have you recently changed if anything at all to encourage healthy sustainable diets?
- what changes have you made?
- why did they you these changes?
- what are the current barriers to encouraging sustainable healthy diets?
- what are the current enablers to encouraging sustainable healthy diets?

Workshop Agenda:

00:00 – 00:05 Introductions and project overview (10 mins) (Bob /Kelly)
Introduce facilitators and ask participants to introduce themselves, start recording, briefly outline the agenda, definitions of terms and provide a quick project overview (i.e. what are sustainable healthy diets, what aim to accomplish in the session, etc.). In addition, Bob to reiterate confidentiality, the right to withdraw, voluntary nature of the study. Ask participants if they have any questions so far.

00:10 – 00:15 Warm-up Task (5 mins) (Rachel)
Rachel to ask for some participants to volunteer to share any thoughts regarding the pre-workshop task to start stimulating thinking and discussion about the changes they have made in terms of healthy sustainable diets.

00:15 – 00:30 Breakout Discussion 1: How are decisions made? Is evidence considered/important? (15 mins)
Questions to ask:

- how are decisions made?
- what informs these decisions?
- who is responsible for making decisions?
- who is responsible for implementing changes in your area of work?
- how important is evidence to you when making decisions? [Probe: do you actively seek out evidence? Why / why not? When would you consider evidence, and when wouldn't you – for example, are there decisions that evidence is more important for?]
- which types/ forms of evidence do you consider and why? [Probe 1: around why they might consider one type of evidence over another. Do they consider any to be better? Why? Probe 2: if they don't consider evidence, why not?]
- can you think of any examples of where you've made a decision or change based on evidence? [Probe: why did they decide to implement this piece of evidence? What was it about this piece of evidence that made you adopt it? How was it communicated with them?]

00:35 – 00: 50 Breakout Discussion 2: How is evidence currently communicated to you, and how would you like it to be communicated to you? (15 mins)
Questions to ask:

- can you give examples of how evidence has been communicated with you? What are the strengths of the way it's done, and what are the weaknesses?
- what would 'good' evidence translation look like to you and why? [Probe: content of communication (do they want recommendations, summaries, key points, methodology, level of detail), how tailored do they want the communication to be, format of communication (e.g. workshop, conference, digital, offline etc), language used, visuals used, the person/body communicating the evidence, timing (i.e. what is the right time for evidence to feed into a decision?)]
- what impact would better translation of evidence have on implementation into policy or practice? [Probe: would better communication of evidence increase likelihood of adoption, or are they not open to taking evidence on?]

00:50 – 00: 55 Break (5 mins)

00:55 – 01:25 Breakout Discussion 3: Barriers and enablers to evidence use – Jamboard session
This section of the workshop will be organised in two parts. First, participants will consider what are their current barriers to and enablers for adopting evidence to encourage healthy sustainable diets? This section will be a brainstorming session on what makes it difficult to use and implement evidence and possible enablers/solutions that could help overcome these barriers. Participants will be given approximately 8 minutes on each to record their thoughts on Jamboard (20 mins).

The second section will focus on discussing the Jamboard results and collaboratively ranking and prioritising the barriers and enablers. (10 mins) Participants will also have opportunity, through discussion, to add/ change the barriers and enablers that were brainstormed in the first part. (30 mins in total).

01:25 – 01:30 Wrap-up (5 mins)
Thank participants for joining, provide facilitator contact details for any follow-ups and describe briefly ‘what next’ for the project, including any follow-up with participants regarding the feedback session.

Draft Invitation text

Dear XXX

I am making contact today to invite you to take part in a research project on ‘Optimising evidence for policy and practice: shifting toward sustainable and healthy diets’. This project is commissioned and funded by the Food Standards Agency (FSA). It aims to understand how evidence could be better translated to policy makers and practitioners to increase adoption into policy and practice. This project is being conducted by the University of York in partnership with the University of Hertfordshire.

Your insights into these challenges would be particularly valuable, given your experience in the field, and I would like to invite you to take part in an interactive workshop (90 minutes) via Zoom. This will take place on XXX and your participation will contribute to a set of important principles for translating evidence to and influencing adoption into practice and a final research report that will be distributed via FSA and university networks.

We would really appreciate if you could join us as your insights on the topic of healthy sustainable diets are valuable to this work. I have attached a Participant Information Sheet, which will provide you with more detailed information on the project, and a consent form for you to read, sign and return. Everything will be anonymous.

Thank you for your time and look forward to hearing from you soon.

All the best,
[Facilitator name]

(To send to confirmed participants) To get everyone in the frame of mind for the workshop we would like you to think about an example of a decision or change that has occurred in your place of work, ideally related to healthy sustainable diets (who made the decision, what information sources did they use, why was the decision made etc.).

Feedback Session

Before the feedback session, the academic team will identify from the workshop synthesis a set of guidance principles (identified by the end-user groups in the first set of workshops) to apply and test guidance for effective evidence communication and adoption. We will accomplish this by drafting summary guidance document(s) targeted to the needs of different participant groups (again based on the findings from the first set of workshops). The feedback session will elicit feedback on the usability and applicability of the guidance. During the feedback session participants from the different audiences will be moved into breakout rooms.

Appendix F: Participant interview follow-up script

Introductions:

Facilitator and participant(s)
Confirm consent form has been received**

Confidentiality note and start recording

Quick overview:

- the aim of this project is to understand evidence use processes in order to 'optimise' evidence translation and enable greater adoption/ implementation into policy/practice for healthy sustainable diets.

- EVIDENCE = research (primary, secondary, practical) that supports or discourages an action toward healthy and sustainable diets
- EVIDENCE USE = when research is considered as part of the policy/ practice decision-making process

Terms:

- GENERATION involves conducting primary research, synthesising existing research OR assessing and evaluating existing evidence

- TRANSLATION: message crafting = the critical process of reviewing data to identify and filter relevant research findings, interpret results and adapt/ contextualise it for the appropriate audience; communication = process of identifying appropriate audience(s) and formatting evidence into a deliverable message that can be effectively received by end-users
- ADOPTION occurs when evidence is received and reviewed by appropriate audiences, judged as useful and considered when crafting the new policy/practice into actions; evidence influence may vary, but it MUST have some influence on decision making process in order to be 'adopted'
- IMPLEMENTATION involves deciding how to pursue the policy/ practice, converting it into actionable steps (including who is responsible for delivery) and delivering it to the public in the appropriate setting/ environment

Any questions so far?

Warm-up/ focus question: Can you think of any examples of where you've made a decision or change based on evidence?
Probe: Why did you decide to implement this piece of evidence? What was it about this piece of evidence that made you adopt it? How was it communicated to you?

Topic 1: How are decisions for evidence use made in your work/ experience?

Follow-up/ consideration questions (don’t always ask every one, just hit the main points!):

- what informs evidence use decisions?
- who is responsible for decision making? Who is responsible for implementing change?
- how important is evidence to you when making decisions? **Probe**: do you actively seek out evidence? Why / why not? When would you consider evidence, and when wouldn’t you – i.e. are there decisions that evidence is more important for?
- which types or forms of evidence do you consider and why? Are certain types of evidence better or more useful than others? (i.e. academic research vs. practical research vs. media) **Probe**: why might you consider one type of evidence over another? Do you consider any to be better? Why? If they don’t consider evidence, why not?

Topic 2: How is evidence currently communicated to you and how would you like it to be communicated to you?

Follow-up/ consideration questions:

- what are the strengths of how evidence has been communicated to you? (for example, repetitive/ multiple reminders, format, trusted source, etc.)
- what are the weaknesses? (i.e. poor timing, misunderstanding of ‘real’ process, difficult to understand, etc.)
- what would ‘good’ evidence translation look like to you and why?

Topic 3: Barriers and enablers -- What makes it difficult to find, use and apply evidence/ knowledge in your decision-making process? What makes it easier to find, use and apply evidence/ knowledge in your decision-making process?

Follow-up questions/ considerations:

Rank barriers and enablers

- do any of these barriers (or difficulties) come up more often than others?
- are any of the enablers (for example, supporting practices) especially useful?

Wrap-up

Thanks for participating

Next steps:

- review workshop findings and draft ‘practical guidelines’ for optimising evidence
- follow-up feedback session in early January to review drafts
- final outputs end of January, can send if interested
- you are able to request withdrawal from the study at any point, no questions asked, until 10 January 2022 by emailing Rachel

Follow-up email will be sent in the next few weeks with more information about the feedback session.

Read more:

Guiding Principles for translating evidence on diet shift for people in the real world main report

Promoting healthy and sustainable diets: How to effectively generate and translate evidence landing page