Appendix B

Guide for using the FEED Map and Visualiser (Food Environment Evidence Directory)

Evidence Collections for Climate and Health

June 2024

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Funding

FUNDED BY

NIHR | National Institute for Health and Care Research

This project is funded by the NIHR Public Health Policy Research Unit (PH-PRU). The PH-PRU is commissioned and funded by the National Institute for Health and Social Care Research (NIHR) Policy Research Programme. The views expressed in this report are those of the authors and not necessarily those of the NHS, the National Institute for Health and Social Care Research, the Department of Health and Social Care or its arm's length bodies, and other Government Departments.

Purpose of this document

To provide a brief overview and guide to using the FEED Map and Visualizer.

FEED Terminology

These definitions were used by the researchers while creating the underlying FEED database. These definitions are integrated into the Map as 'descriptions' which become available for viewing when you hover over elements of the Map.

General definitions

Intervention: Refers both to food environment and policy interventions

Methodological focus: Review specified a focus on intervention function or subpopulation within the methods of the review (as identified in the research question, search strategy, or inclusion criteria)

Table headings and subheadings

Tab level corresponds to table heading level

Intervention function: Review had a methodological focus on a specific intervention function

- *Affordability*:* Review focused on interventions that changed the relative or absolute price of food items
- *Availability*:* Review focused on interventions that changed whether a food item was present in a physical space
- *Sustainability properties*:* Review focused on interventions that changed the environmental or social impact of a food item
- *Promotion*:* Review focused on interventions that changed how a food item is designed to influence its desirability, such as how it is presented, marketed, promoted, and front-of-pack labelled
- *Quality*:* Review focused on interventions that changed the external characteristics of the food item itself, such as freshness, integrity, safety, nutrient, phytochemical profile, objective sensory attributes
- *Multi-function intervention:* Review focused on interventions that changed multiple functions simultaneously (i.e. a new locally produced salad is added to the menu as a "planetary pick")
- *Function Not Specified:* Review had no predefined focus area by function, rather looks broadly across the literature to see "what works", usually guided by outcomes
    - *Food environment:* The review focused on interventions within the built environment, in which consumers make decisions about which foods to acquire and consume
    - *Policy:* The review focused on the higher sphere of governance which influences the food environment

Subpopulation: Review had a methodological focus on a specific demographic group

- *Non-specific Population*: Review did not focus on any specific subpopulation
- *Age:* Review focused on a specific age group
- *Region:* Review focused on a geographic region, region-income, or region population density

Setting - Retail: Review focused on the retail setting

Setting - Community: Review focused on the community setting

Setting - Workplace: Review focused on workplace setting

Setting - Educational Facility: Review focused on educational facilities

Vulnerability: Review focused on vulnerable groups by ethnicity, gender, or SES

Filters

Secondary Intervention: Review focused on a non-diet intervention or an intervention targeting individual factors, alongside a food environment or policy intervention

ONLY food environment or policy intervention
Intervention targeting individual factors
Non-diet intervention

Secondary Outcome: Review focused on a non-consumption based outcome

ONLY consumption/sales outcomes: any outcome that measures or indicates an actual change in consumption behaviour (such as frequency, quantity, diversity, or quality of food consumed or changes to dietary patterns).

Environmental outcome: outcomes that measure, indicate, or influence changes to environment and climate (such as greenhouse gas emissions and food/plate waste)

Health-influencing behaviour: outcomes that are likely to impact health (such as physical (in)activity, alcohol use, tobacco use)

Health outcomes and metrics: physical or mental health outcomes or metrics, indicators, tests of health (such as BMI, life expectancy, nutritional status, cardio-vascular disease, etc.)

Knowledge and attitudes: knowledge, attitudes, perceptions, and intended actions that precede consumption behaviours (such as increased vegetable acceptance, consumer use of nutrition labels, intended consumption of meat, etc.)

Adherence/effectiveness of intervention: outcomes that measure or indicate the success or failure of an intervention or policy such as, the effectiveness in making a permanent change to the food environment or food policy (for example, the price of meat in a grocery store after the implementation of a taxation scheme) or the adherence of consumers to the intervention/policy (such as consumer's participation in social food program). Includes "adverse effects", as an indicator of potential *in*-effectiveness.

Educational outcome: academic performance and attendance

Socio-/structural-outcomes: outcomes that are embedded in the social structure of society and influence consumer's consumption behaviours (such as food security, social capital, population-level inequality in diet)

Economic outcome: Macro-economic outcomes (such as price elasticity) and micro-economic outcomes (such as health care savings)

FEED Map - Overview

Accessing the Map

You can access the FEED map here.

What are you looking at?

This is an open-access and interactive database of 160 publications containing reviews of interventions in the food environment or policies with consumption as an outcome. The map shows the relative distribution of these publications according to the function of the intervention(s) and/or policy(ies) reviewed and by any specific focus on subpopulation(s).

How was this made?

The FEED Map is built upon the existing FEED database. The FEED database consists of 160 publications categorised by different elements including the relevance of the publication to various subpopulations, the function of the intervention(s) reviewed, and publication elements like type and year of publication. The Map tool allows you to see an overview of the landscape of the underlying database and navigate the included publications. Detailed methods, for building the FEED database and FEED Map, are available here.

Each publication is placed in the relevant region(s) of the map according to its categorisation by:

- The function(s)[1] of the intervention or policy, (affordability, availability, sustainability properties, promotion, quality, having multiple functions simultaneously, or having no pre-specified function[2])
- Relevance of the results to a specific subpopulation(s)[3] (by age, region, context, and indicators of vulnerability)

Each publication is additionally categorised by the following elements. These appear as filters in the Map, which provide users with more opportunities to navigate the evidence base:

- Publication characteristics (type of publication, year of publication, methodological quality of publication)
- Whether there was a secondary intervention (a non-diet intervention or an intervention targeting individual factors[4])
- Any secondary outcome measured besides consumption (related to the environment, health, etc.[5]).

What is NOT in this map?

- Primary evidence
- Reviews published after January 2023
- Indications of the effectiveness of interventions

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[1] Publications may have reviewed more than one intervention and/or policy function and may appear in more than one row in the map

[2] Functions taken from Downs et al,. 2020 Food System Typology Framework[1]

[3] Publications may have reviewed interventions and/or policies in more than one subpopulation, and may appear in more than one column in the map

[4] Individual factors include the most direct, individual-level driver of dietary behaviour, such as income, values, beliefs, preferences, social capital, health, knowledge, mobility, skills, and time.[1]

[5] Secondary outcome categories include environmental outcomes, health-influencing behaviour, health outcomes and metrics, knowledge and attitudes, adherence/effectiveness of intervention, educational outcome, socio-/structural-outcomes, and economic outcomes. These categories were identified from the literature using an inductive approach.

FEED Map - Technical guide

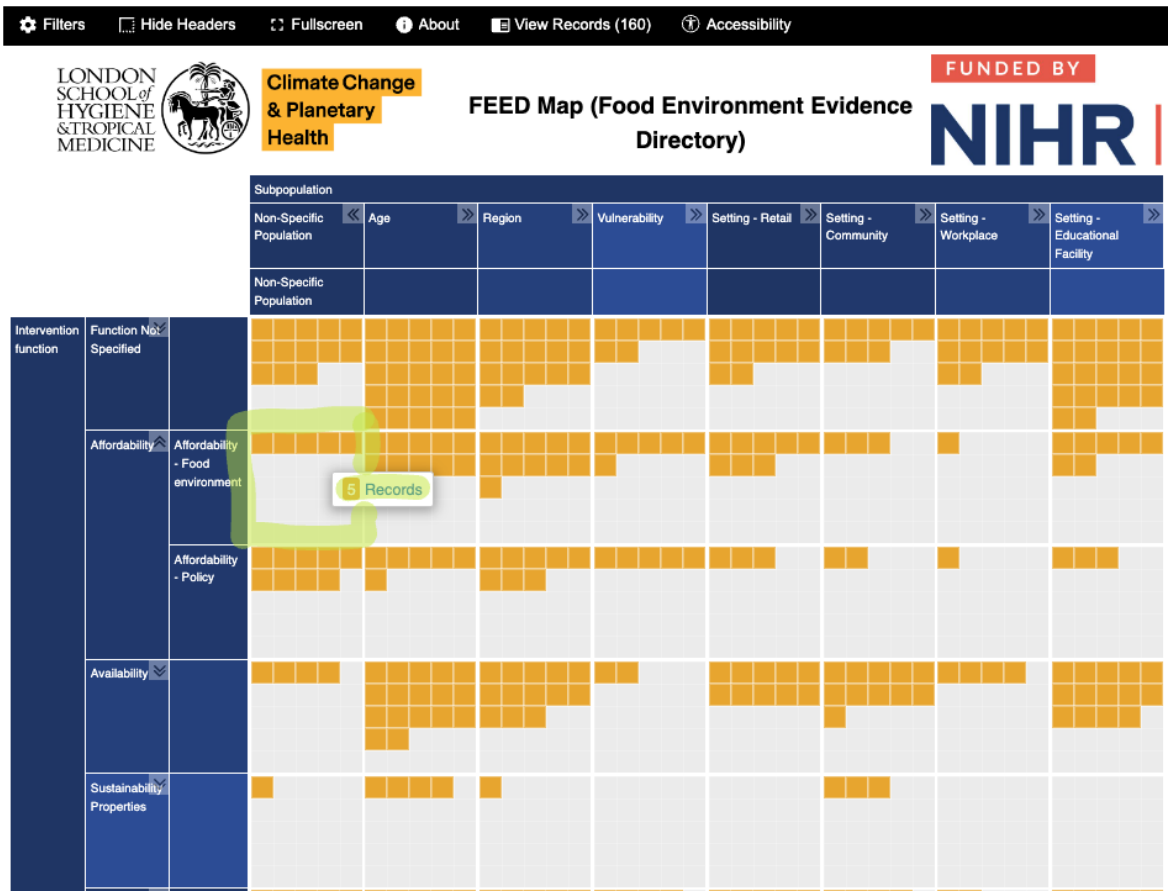
Link to video guide

You can access the video guides for the FEED Map here (video 1,2 & 4) .

Notable technical features

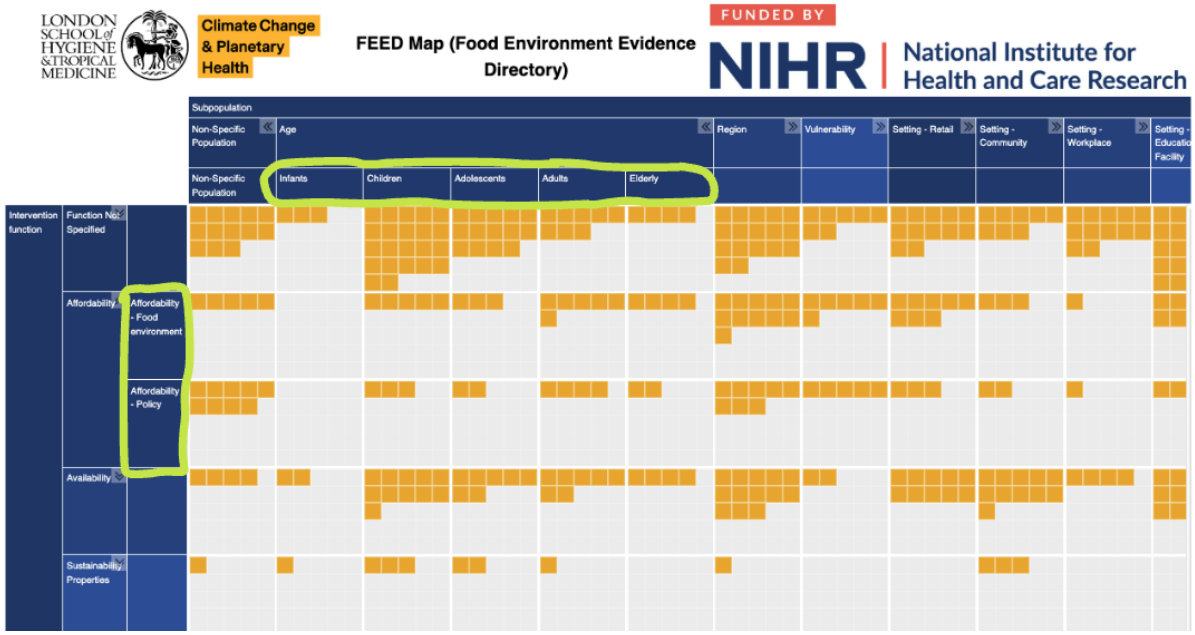
Identifying number of publications in each grid cell

The view of the map can be changed in the upper right-hand corner from “Mosaic tiles” to “Heatmap”, or “Bubble”. All views represent the number of publications that were categorised into that grid cell of the map by either the number of tiles (“Mosaic tiles”), the shade of the grid cell (“Heatmap”), or the size of the bubble. For example, in the picture below, the number of publications that reviewed “affordability interventions in the food environment” in the “general population” is displayed in one of the upper left-hand grid cells. Hovering over this circle in the map, shows there are 5 publications in this group.



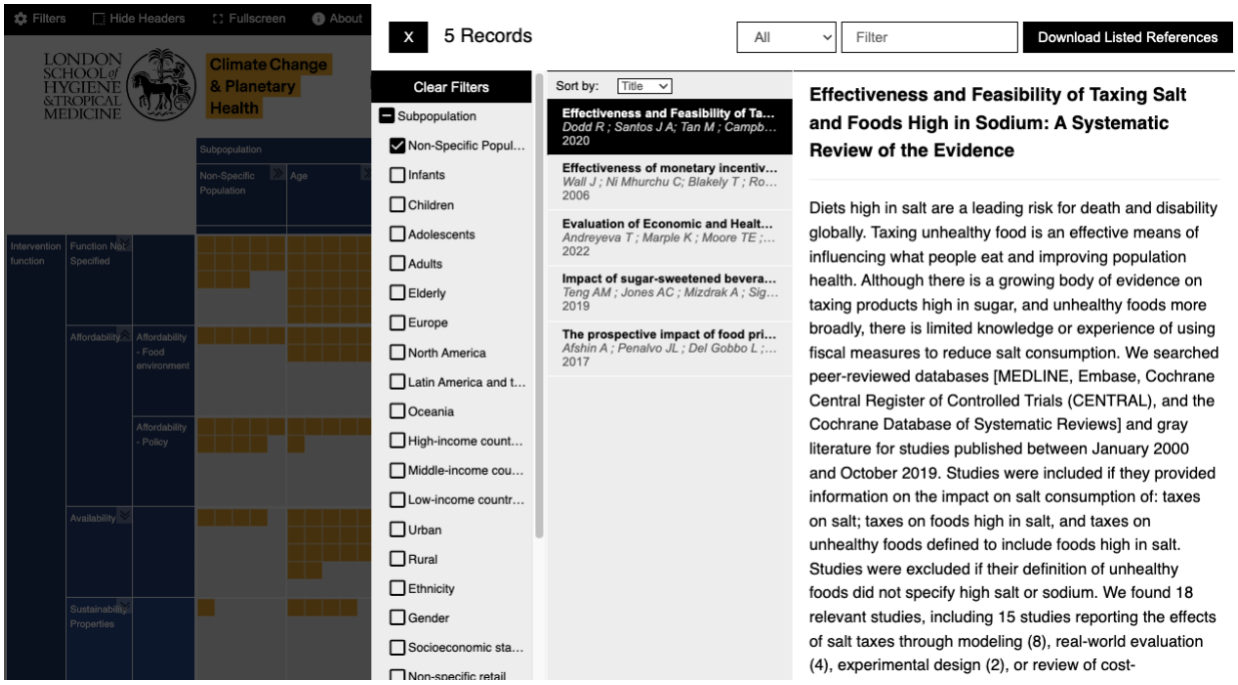
Collapsing and expanding axes

Here you can see the two axes can be expanded and collapsed to display more granular categorisations. When axis are collapsed, the number of records in each grid cell increases as the columns or rows are merged into the higher-order categorisation. See below for the categories of “subpopulation > age” and “intervention function > affordability”, fully expanded to show third level categorisation.



Accessing publications

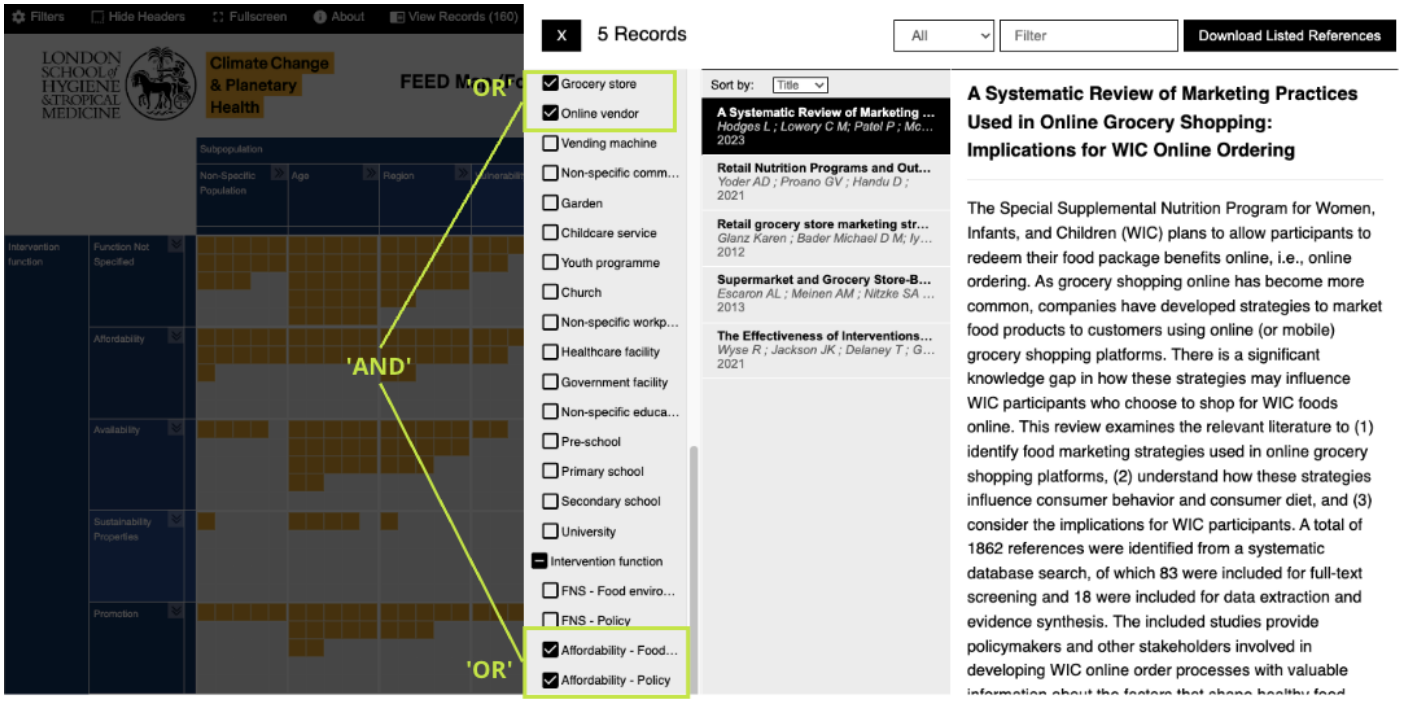
Clicking on an area of the grid opens a side panel that displays the publications categorised by the corresponding points on the two axes. For example, clicking the upper left-hand square in the first example (above) opens the 5 publications that reviewed the “affordability interventions in the food environment” in the “non-specific population”. From here, you can read the title and abstracts and download the references.



Expanding your search by adding in additional focus areas

If you want to add additional focus areas by subpopulation or function, you can do so by selecting them under 'filters'. This essentially allows you to view publications across multiple rows and columns, simultaneously. This filter functions like the Boolean operator 'or' when selecting multiple filters under the same section (either subpopulation or function). The filter functions like a Boolean operator 'and' when selecting filters between sections.

For example, if you are additionally interested in reviews that focus on interventions AND policies that function by 'affordability' in EITHER "grocery stores" or "online vendors" you could select the following filter options.

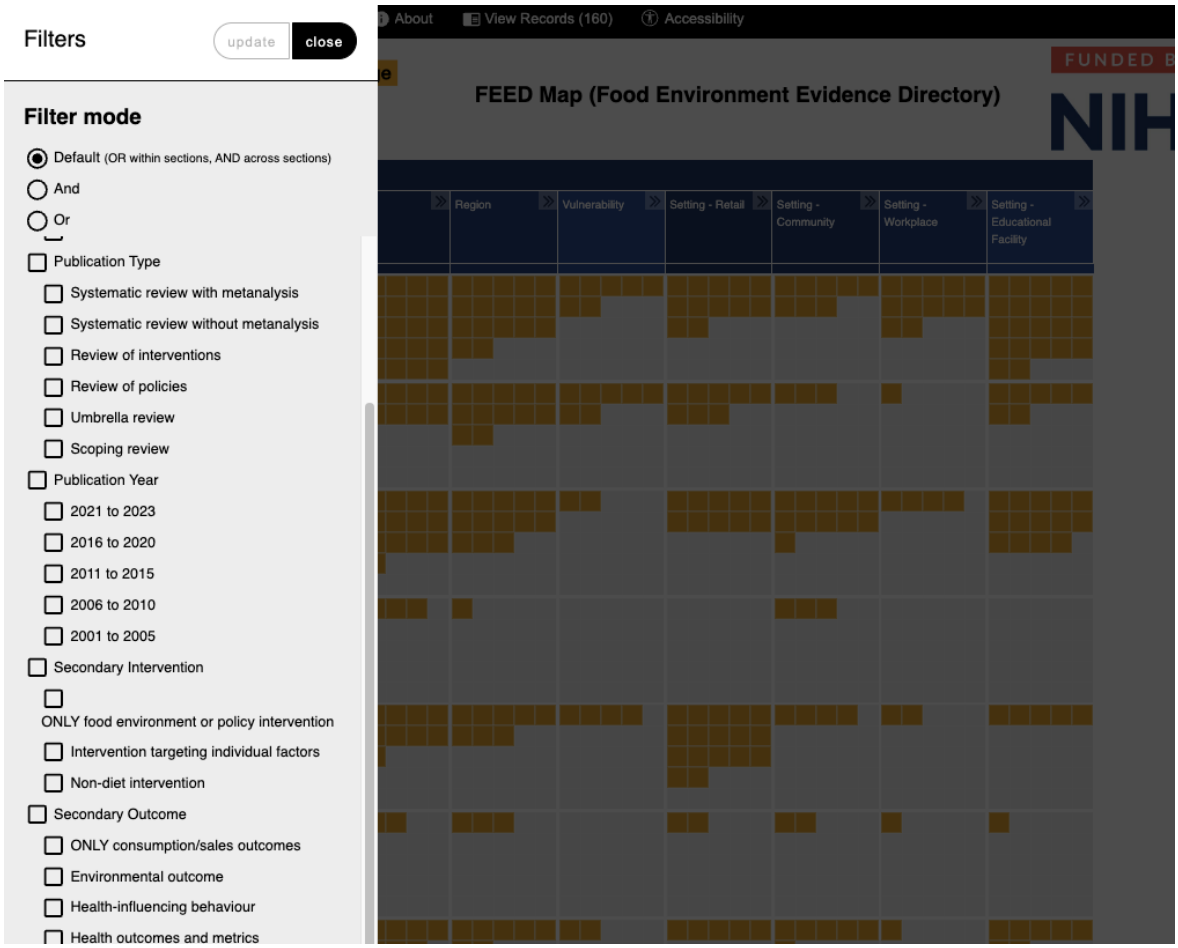


Because publications may have reviewed multiple interventions and subpopulations, selecting these filters adds publications into your search that have, at minimum, the specific additional focus you've selected. They do not necessarily have an exclusive focus on the focus you've selected.

Reducing the number of displayed publications or creating a tailored search

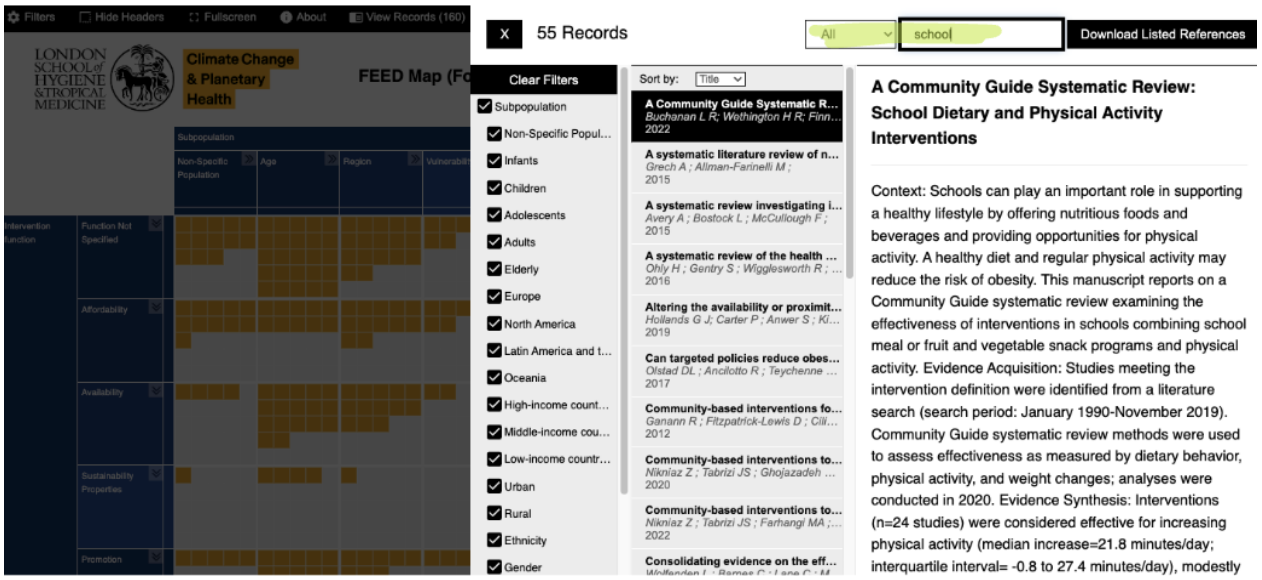
There is an additional filter feature that enables users to filter the search and display publications with more specificity. This filter allows users to specify which operator they want to use in their search strategy: 'and' / 'or' / 'default' (as the previous filter option 'OR' within sections, 'AND' across sections).

There is no limit on the number of filter options you can select. Filter options include publication characteristics (type of publication, year of publication, methodological quality of publication), whether there was a secondary intervention (a non-diet intervention or an intervention targeting individual factors), and any secondary outcome measured besides consumption (related to the environment, health, etc.).



Quick search

The quickest and easiest way to find potentially relevant literature is to open ‘view records’ on the top task bar and type your keyword into the search box. You can select if you want to search across the title, abstract, etc.



FEED Visualiser - Overview

Accessing the Visualiser

You can access the Visualiser here. It is also linked in the final report to NIHR and in each FEED document.

What are you looking at?

The FEED Visualiser is an online web database application for visualising and exploring the contents of the underlying FEED database in a user-friendly interface.

Users can conduct searches and view reference coding in the FEED database to generate tables and visualisations. Digging deeper into the reports and visuals gives access to the individual references and supports export of those references.

How was this made?

The FEED Visualiser is built off the existing FEED database. The FEED database consists of 160 publications categorised by different elements including the relevance of the publication to various subpopulations, the function of the intervention(s) reviewed, and publication elements like type and year of publication (see column on left side). The Visualiser tool allows you to navigate the underlying database of literature. Detailed methods, for building the FEED database and FEED Visualiser, are available here.

What does this tool do?

The 'cross-tab' and 'map' features of the Visualiser (located in the lower right-hand corner) allow you to create your own cross-tabulation of 2 variables or map of 3 variables, according to your own search query. These will show the distribution of publications with evidence relevant to your query, which you can explore in further detail.

These will not show evidence that is exclusive to your exact query. Rather, the query will return all publications that have a methodological focus on at least one element of your query. Subsequently, the query may return publications that have additional focuses beyond the focus of your query.

FEED Visualiser - Technical guide

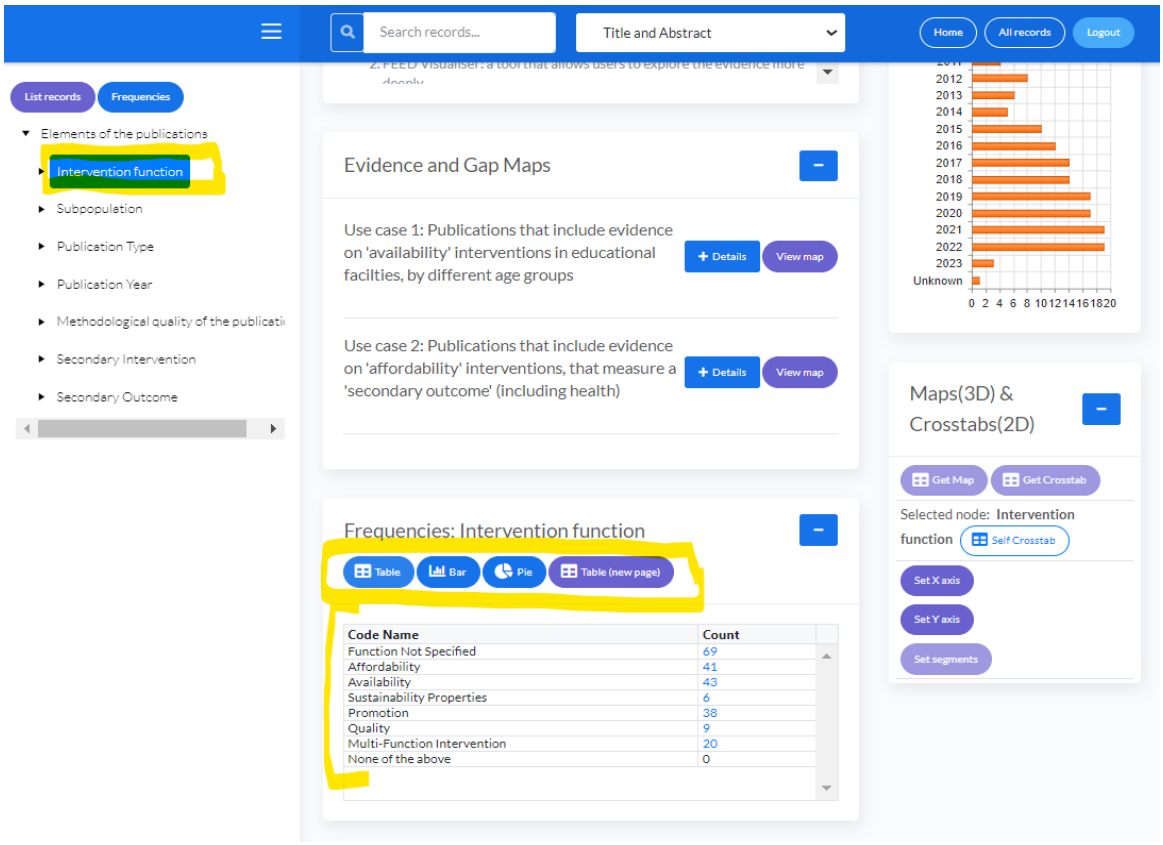
Link to video guide

You can access the video guides for the FEED Visualiser here (video 1, 3 & 4).

Notable technical features

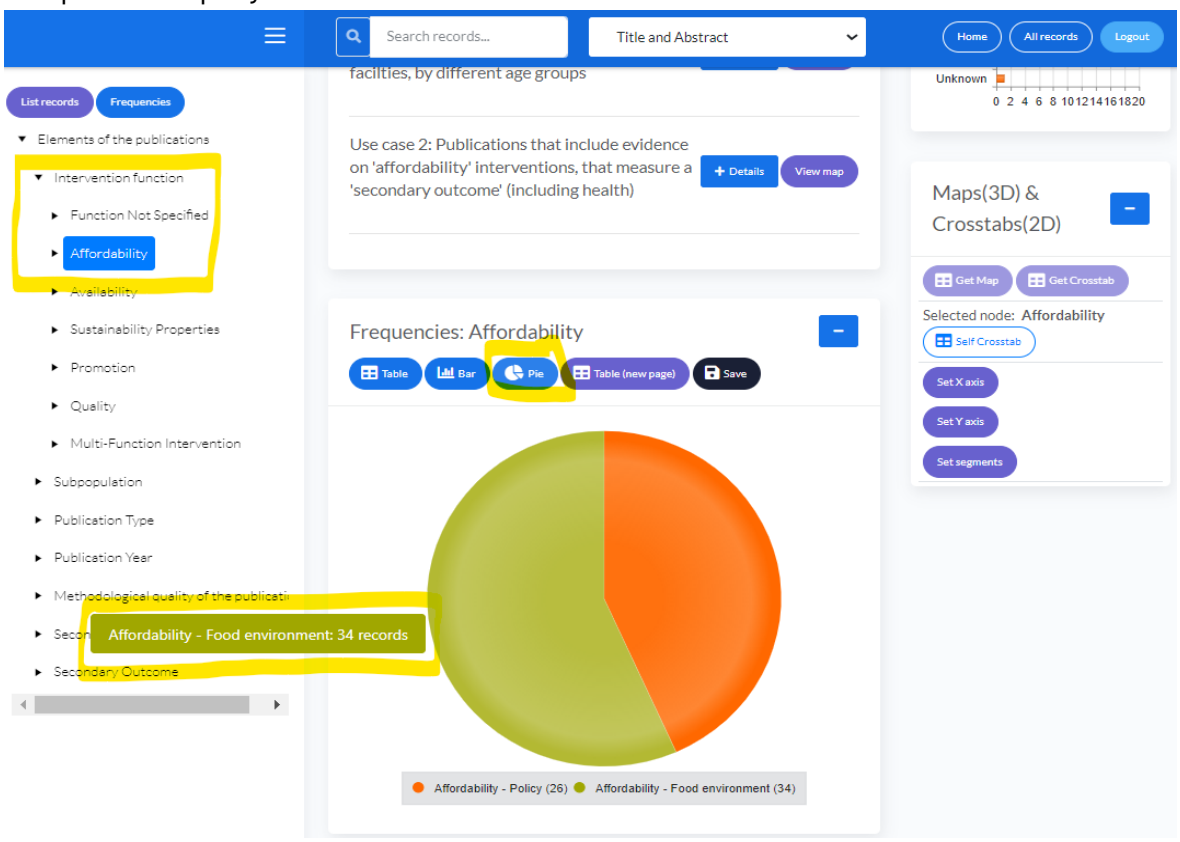
Creating summary statistics based on the database

The Visualiser allows users to explore the underlying FEED database publications, by the frequency of the coded elements of the publications. These elements include ‘intervention function’, ‘subpopulation’, ‘publication type’ etc. (see left hand column in picture).



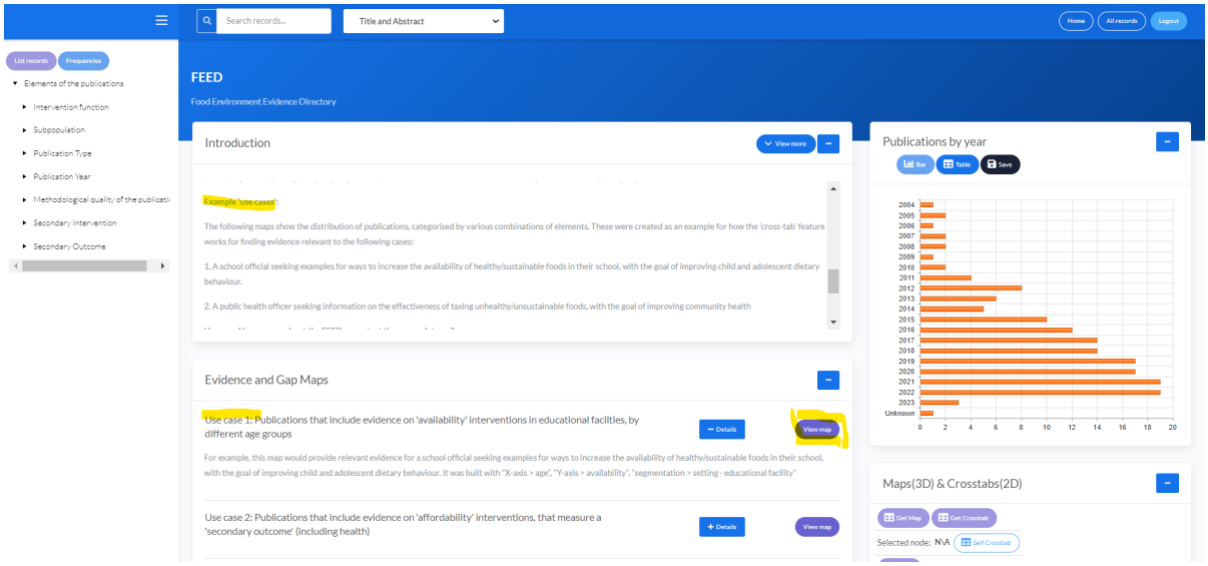
The number of publications that were coded with each element can be explored using different visualising features (table, bar, pie).

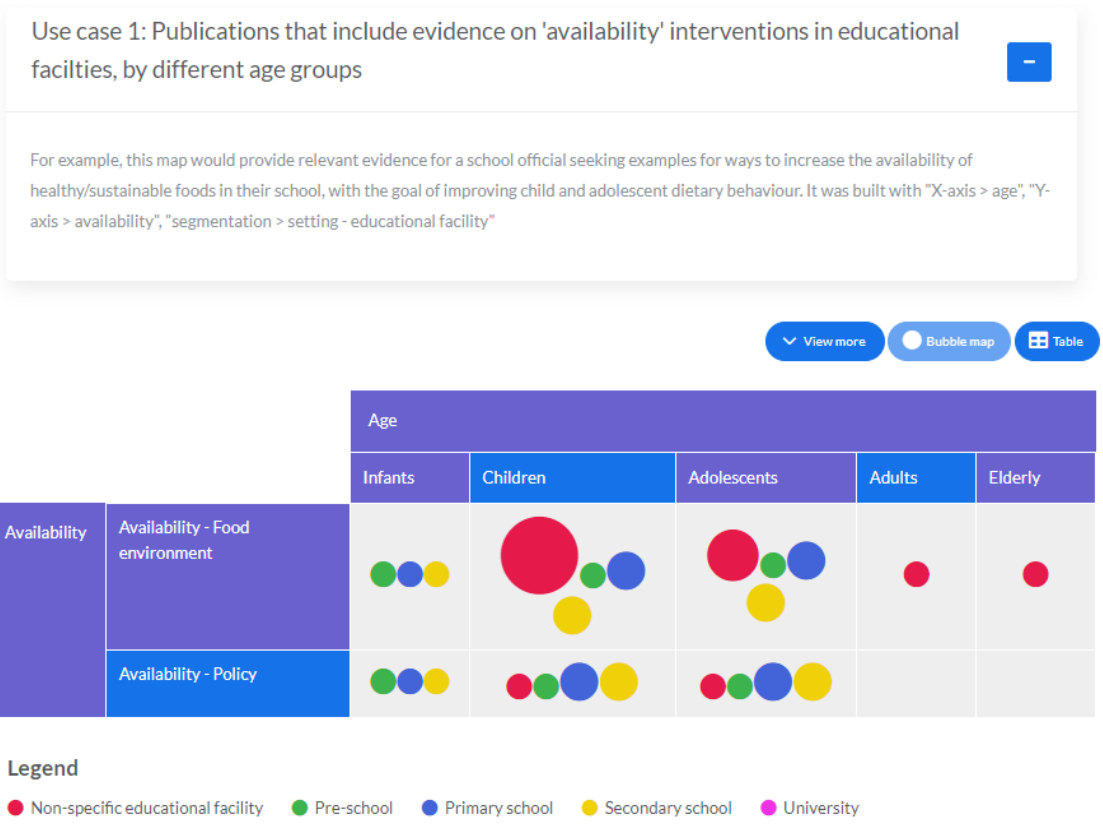
The elements each contain multiple levels of coding and can be explored in detail using the frequency function. For example, if you wanted to quickly see how many publications were coded as a “food environment intervention” versus “policy”, focusing on “affordability”, you could complete this query.



Example ‘use cases’

To begin to understand the “Maps(3D)” functionality of the Visualiser, you can view two example ‘use cases’. Select “+ Details” to read how the Map was created based on an example user query (First picture below). To see the map, click ‘View map’ (second picture below).





Creating a map

To create your own map, you must select three elements and assign them to the X-axis, Y-axis, and segmentation. Both the X- and Y-axes will only show two levels in the Visualiser. The FEED Map (a different tool) allows you to see all three levels of coding simultaneously. The element that you select as the segment must not have more than 6 subcategories. To select an element for the different axes, you click the name of the element in the list in the upper left-hand corner and then click “Set X axis” etc.

For example, setting the ‘intervention function’ as the X-axis, the ‘subpopulation’ as the Y-axis, and the ‘publication type’ as the segments will produce the following map:

Creating a cross-tabulation

To create a cross-tab, you must select two elements and assign them to the X- and Y-axes of your tabulation table. For a cross-tab, the tabulation table only shows one level of coding. For example, selecting ‘secondary outcome’ as the X-axis and ‘intervention function’ for the Y-axis, you would produce this cross tabulation.

Cross-tab report

Table | Bubble map | Bubble (log)

(Column) Intervention function vs (Row) Secondary Outcome

	Function Not Specified	Affordability	Availability	Sustainability Properties	Promotion	Quality	Multi-Function Intervention	None of these
ONLY consumption/sales outcomes	25	15	13	0	16	2	7	0
Environmental outcome	26	15	14	1	15	2	9	0
Health-influencing behaviour	16	0	4	2	1	0	2	0
Health outcomes and metrics	32	20	21	3	12	4	7	0
Knowledge and attitudes	12	2	5	1	7	2	3	0
Adherence/effectiveness of intervention	10	7	7	1	4	1	1	0
Educational outcome	0	1	2	1	0	1	1	0
Socio-/structural-outcomes	0	2	4	1	0	1	0	0
Economic outcome	3	8	2	0	1	0	1	0

References

1. Downs SM, Ahmed S, Fanzo J, Herforth A. Food Environment Typology: Advancing an Expanded Definition, Framework, and Methodological Approach for Improved Characterization of Wild, Cultivated, and Built Food Environments toward Sustainable Diets. Foods. 2020;9(4):532.