



LEEDS BECKETT UNIVERSITY  
OBESITY INSTITUTE

# **What does the evidence say? A scoping review of obesity prevention and treatment in adults**

**March 2024**

# Introduction

- **Aim:** To search the academic literature to retrieve relevant studies that provide evidence on effective modifiable treatments and prevention efforts towards obesity in adults, aged 18+ years old
- **Rationale:** While many reviews exist, they ubiquitously fail to address the complexity of obesity. They are undertaken in discipline silos, focusing on a single exposure or on a “sub system” of the Foresight map (e.g., built environment) and its relationship with obesity or solo research designs (e.g., randomised control trials) . This review provides an overview of the evidence, from multiple research designs, on modifiable prevention and treatment efforts in adults.
- **Design:** The scoping review was informed by the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols.
- **Main outcome:** The main outcomes assessed was weight status reported as a measure of BMI.

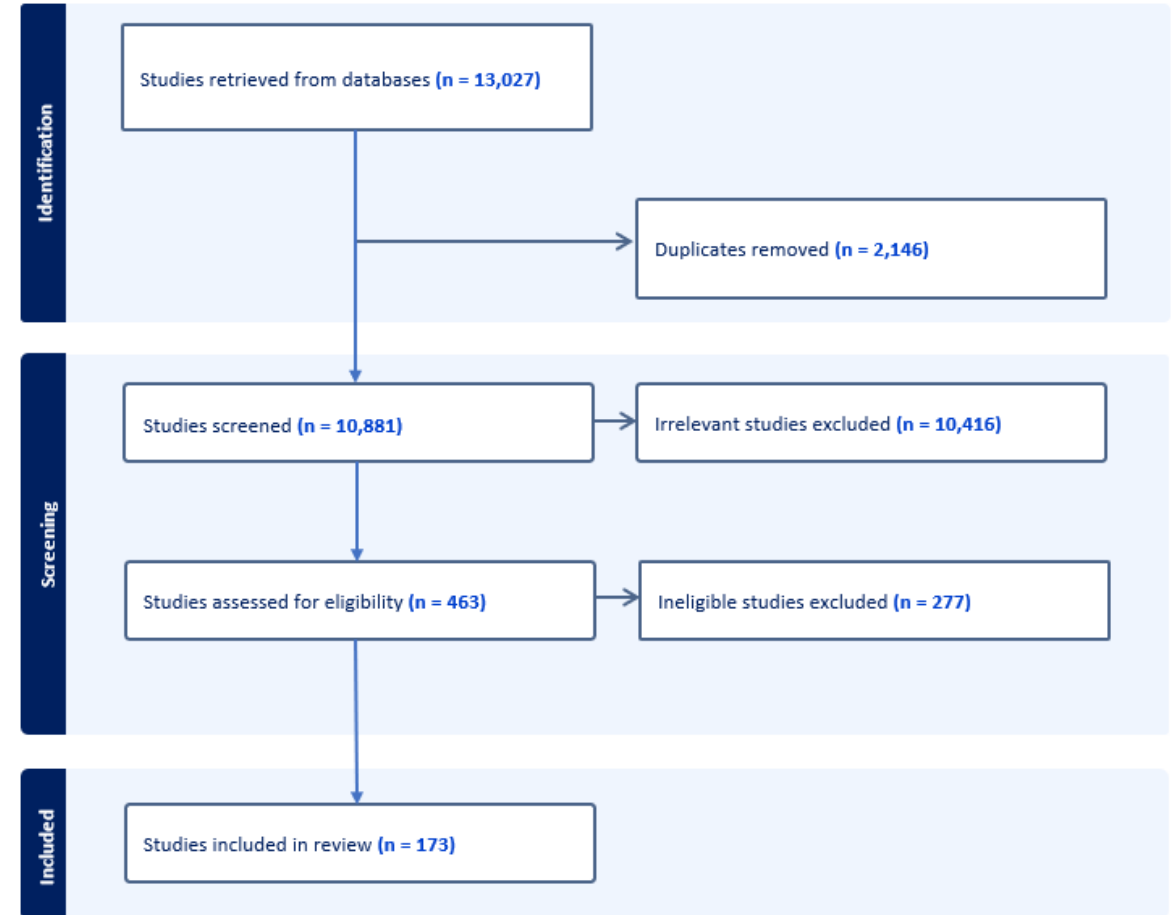
# Methods

A search was conducted using **six scientific databases**: PubMed, PMC, Cochrane, ERIC, CINAHL and Medline between 2019 and 2024.

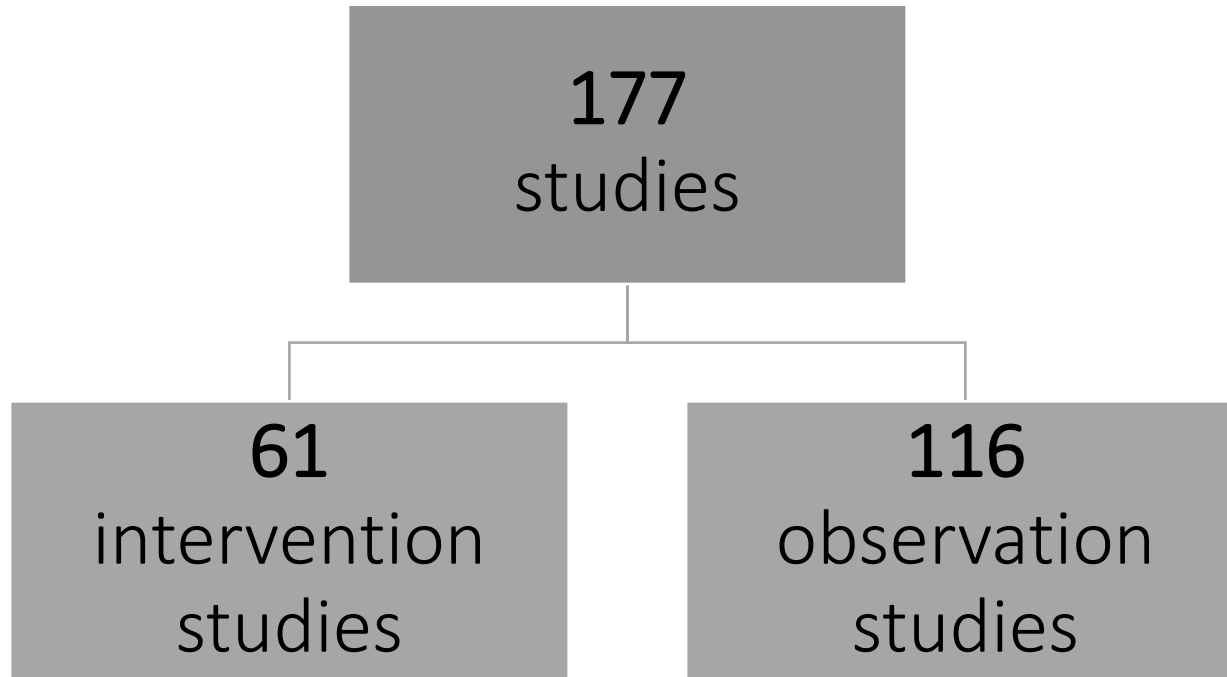
**Keywords** were drawn from previous relevant literature, including the **Foresight (2007) domains**.

Articles involving **modifiable** associations reported against the **outcome measures of BMI** in any primary, peer-reviewed study using human participants within non-institutionalised living conditions for **adults** (aged 18+ years).

Studies needed to include participants from **UN developed western countries** (Europe, North America, Australia / New Zealand) and be published in the English language.



# Findings



177 studies were identified as having an outcome measure of BMI

61 studies had findings from intervention studies.

116 studies reported data from observation studies for example, cross-sectional analysis or longitudinal cohort studies.

## Intervention studies n=61

Did it work? - No (n)	No relationship - Foresight themes	Did it work? - Yes (n)	Positive relationship - Foresight themes	Did it work? - partially (n)	Negative relationship - Foresight themes
11	Physical activity (n=3)	40	Physical activity (n=1)	6	Multiple (n=6)
	Multiple (n=7)		Social psychology (n=2)		
	Others (n=1)		Multiple (n=35)		
			Others (n=2)		
0		1	Physical activity (n=1)	0	
0		2	Food consumption (n=1)	1	Multiple (n=1)
			Multiple (n=1)		

## Observation Studies n=116

<b>Person/ Place/ Both</b>	<b>No relationship (n)</b>	<b>Positive relationship (n)</b>	<b>Negative relationship (n)</b>
Observation + place	6	8	5
Observation + person	11	31	28
Observation + both	6	13	8

## Observation studies – Foresight themes

Person/ Place/ Both	No relationship (n)	No relationship - Foresight themes	Positive relationship (n)	Positive relationship - Foresight themes	Negative relationship (n)	Negative relationship - Foresight themes
Observation + place	6	Environmental activity (n=2) Other - food environment (n=2) Food consumption (n=1) Individual activity (n=1)	8	Environmental activity (n=2) Other - food environment (n=4) Other - air pollution (n=1) Food consumption (n=1)	5	Food consumption (n=1) Other - area safety (n=1) Environmental activity (n=2) Other - food environment (n=1)
Observation + both	6	Other - socioeconomic class/ income (n=1)  Individual activity - physical activity (n=1)/ social anxiety (n=1) Food consumption - sweet liking (n=1)/ food insecurity (n=1) Individual psychology - stress (n=1)	13	Individual psychology - stress (n=2)/ self esteem (n=1)/ emotional eating (n=1)  Individual activity - social jet lag (n=1)/ physical activity (n=1) Social psychology - education (n=3)  Other - socioeconomic class/ income (n=3)  Food consumption - food insecurity (n=1)	8	Food consumption - food abundance (n=1)/ food insecurity (n=1)/ purchasing power (n=1) Social psychology - social network (n=1) Individual activity - physical activity (n=2) Environmental activity - access to opportunities for physical exercise (n=2)

## Observation studies – Foresight themes cont.

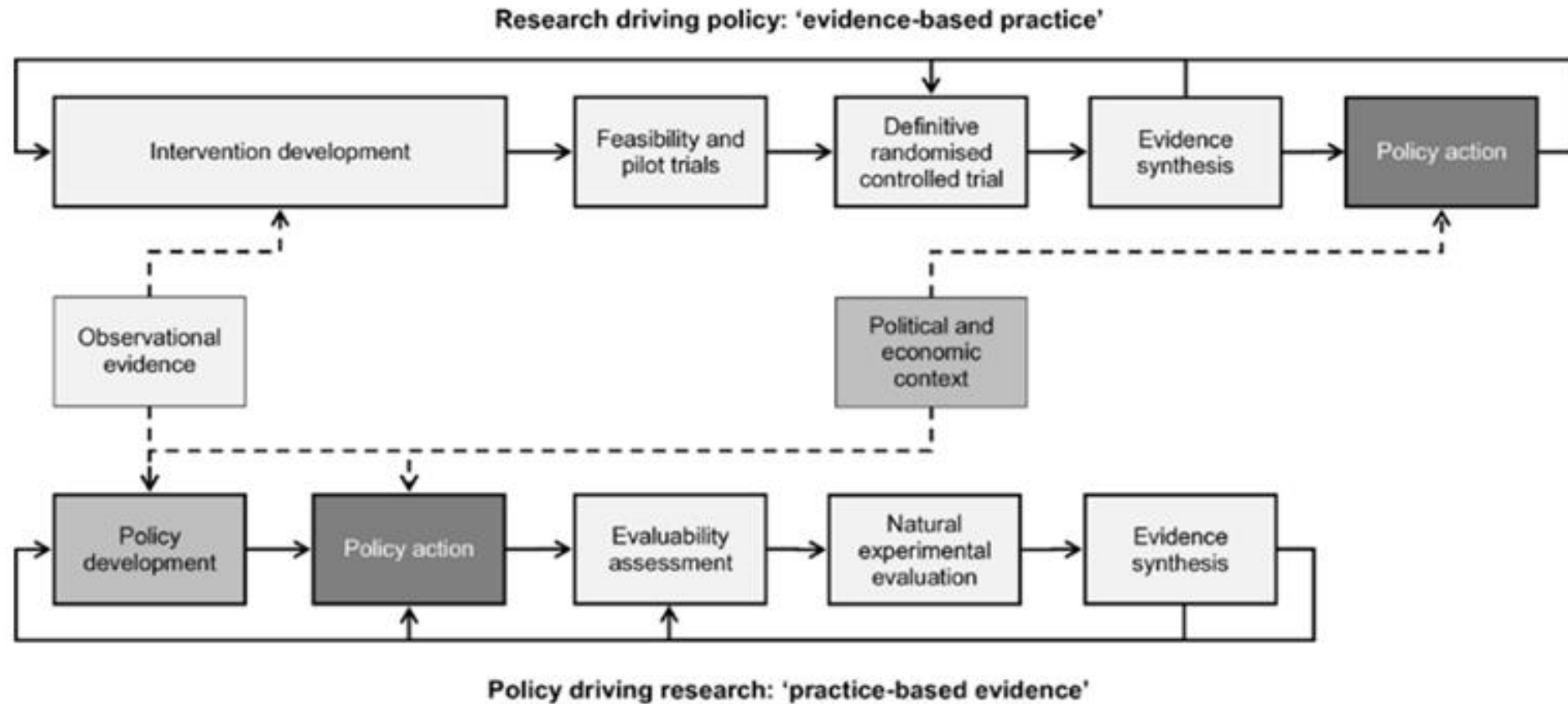
Person/ Place/ Both	No relationship (n)	No relationship - Foresight themes	Positive relationship (n)	Positive relationship - Foresight themes	Negative relationship (n)	Negative relationship - Foresight themes
Observation + person	11	<p>Food consumption - food consumption general (n=2)/ force of dietary habits (n=2)/ nutritional quality of food and drink (n=3)/ hunger (n=1)/ misc</p> <p>Individual activity - physical activity (n=2)</p> <p>Individual psychology - suggestability (n=1)/ education (n=1)</p>	31	<p>Multiple (n=1)</p> <p>Social psychology - education (n=1)/ acculturation (n=1)</p> <p>Individual activity - sleep (n=1)/ physical activity (n=3)/ smoking (n=1)</p> <p>Individual psychology - stress (n=4)/ depressive symptoms (n=1)/ body image (n=1)/ self esteem (n=1)/ food insecurity (n=1)</p> <p>Food consumption - nutritional quality of food and drink (n=8)/ breakfast eating (n=1)/ tendency to graze (n=1)/ eating behaviour (n=1)/ force of dietary habits (n=3)/ snacking (n=1)/ meat (n=1)</p>	28	<p>Other - socioeconomic class (n=1)</p> <p>Food consumption - energy density of food offerings (n=1)/ dietary habits (n=3) / food exposure (n=1)/ nutritional quality of food and drink (n=6)</p> <p>Individual activity - sleep (n=1)/ physical activity (n=7)</p> <p>Social psychology - acculturation (n=1) / media consumption (n=1)/ education (n=1)</p> <p>Individual psychology - mental health (n=1)/ self esteem (n=1)/ education or awareness (n=1)/ attrition (n=1)</p> <p>Food production - gardening (n=1)</p>

# Summary of studies

- It is complex!
- There are no clear prevention or treatment strategies for adult obesity.
- Currently many published studies have considered interventions at a person rather than place level.
- Key themes from observational studies included the role of the food environment, food consumption, physical activity, sleep and psychological wellbeing.

# Practice recommendations and conclusions

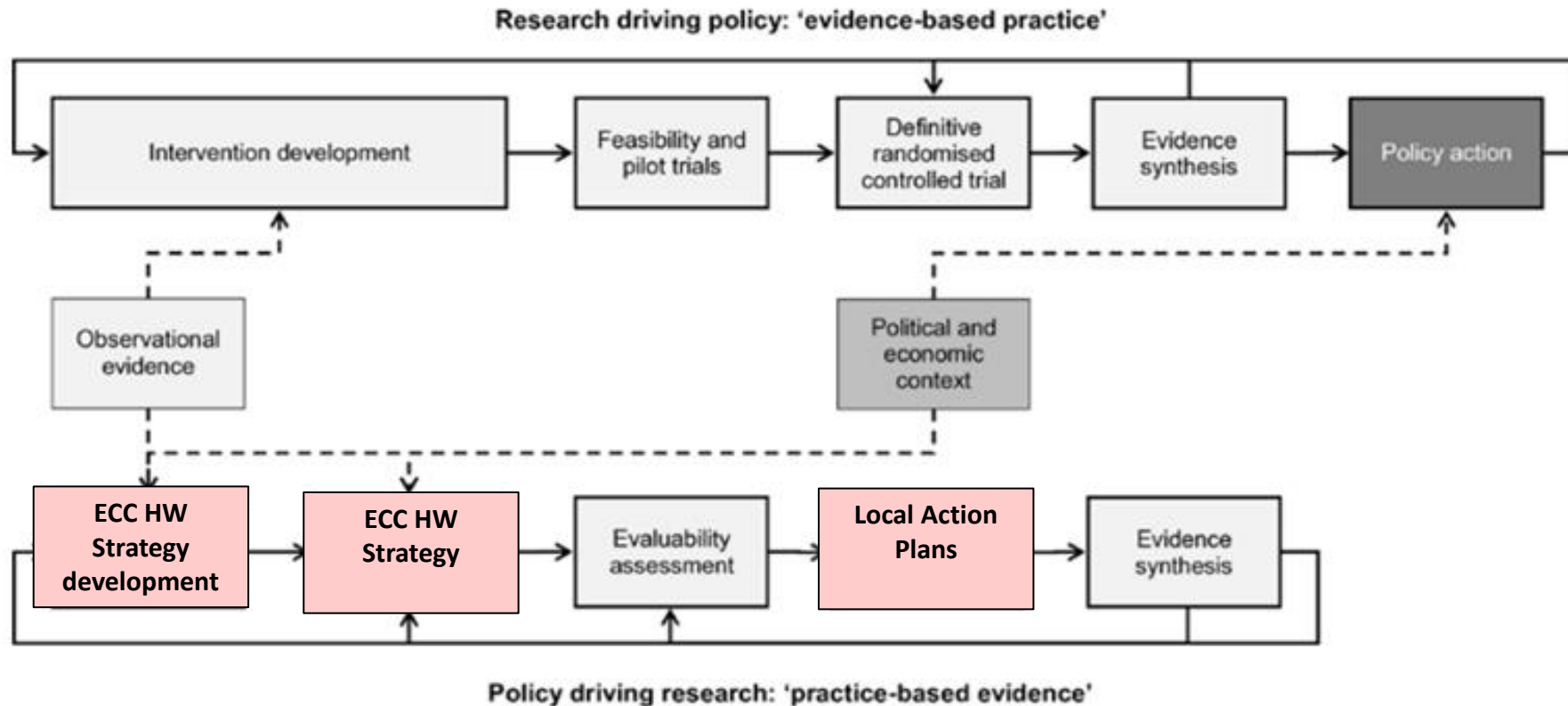
- Due to a lack of clear findings within the literature there are no clear recommendations for practice.
- A practice-based approach to prevention and treatment of adult obesity is recommended



**Figure 1** Two complementary modes of evidence generation.

Ogilvie D, Adams J, Bauman A, *et al*

Using natural experimental studies to guide public health action: turning the evidence-based medicine paradigm on its head  
*J Epidemiol Community Health* 2020;**74**:203-208. <https://doi.org/10.1136/jech-2019-213085>



**Figure 1** Two complementary modes of evidence generation.

**Emphasis shifts to evaluation**

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