

# Landscape Review of Obesity Research in Scotland

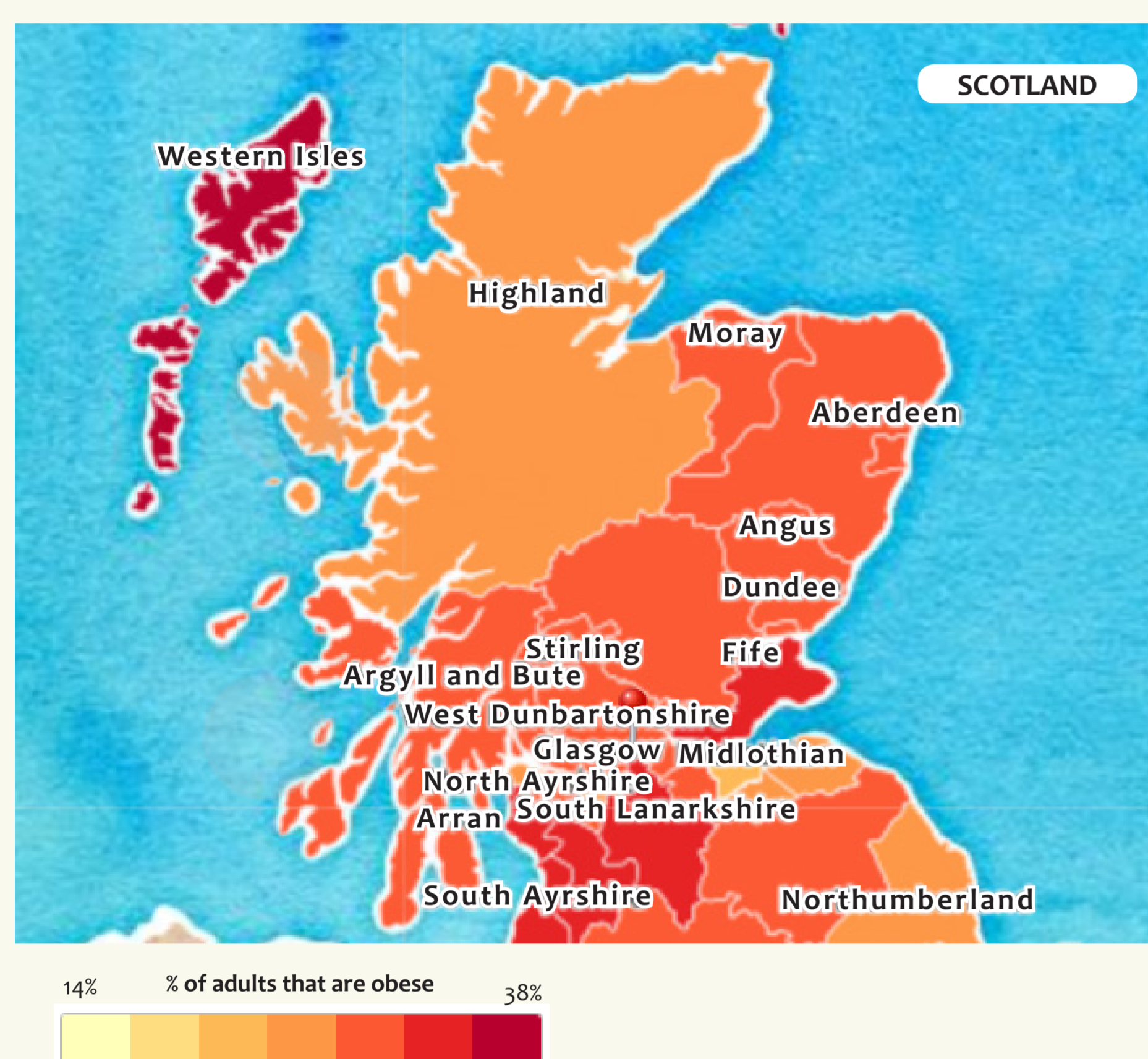


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## INTRODUCTION:

Obesity rates in Scotland are amongst the highest in Europe. Annual national health surveys consistently demonstrate that adult obesity prevalence in the country is high, with prevalence remaining at 25-30% (Brown et al., 2015). Furthermore, rates of childhood obesity in Scotland are also high, with the latest Scottish health survey reporting that 15% of Scottish 2-15 year olds are at risk of obesity.



## AIMS:

To provide a description of completed, ongoing and planned research on obesity in the Scottish population which could help Scotland's obesity researchers and policy makers focus efforts and resources where they are most needed (Jepson et al., 2015).

## METHODS:

- Databases searched: (Medline, Embase, A-Med, CINAHL, SPORTdiscus, PsychINFO). Grey literature or relevant ongoing or planned research projects were sourced by searching trial registers, government websites or by contacting relevant researchers.
- Final searches completed January 2017.
- Abstract and full-text analysis were undertaken against the following inclusion/exclusion criteria:

### Inclusion criteria:

- Any study design
- Research was undertaken or published in the last 11 years or is planned or ongoing.
- Primary or secondary focus on overweight/obesity
- Intervention studies must include an outcome evaluation, with at least one outcome related to measurement of overweight/obesity.

### Exclusion criteria:

- No Scottish populations included.
- Study was published before 2005.

### Data extraction and analysis:

- Coding framework devised.
- Data on study design/focus and intervention type extracted
- A narrative analysis was used to describe the "landscape" of the obesity research in Scotland.

## RESULTS:

- 207 studies included, generating a total of 259 publications.
- 119 epidemiological studies (*cross-sectional, case control, cohort designs*), 40 qualitative and 47 evaluated interventions.

### Observational/descriptive research:

- Included studies which described trends in obesity prevalence within the general population, to research which specifically focused on the nature of obesity amongst populations with comorbidities/risk factors.
- A number of studies focused on health behaviours such as physical activity and dietary habits in relation to obesity
- Observational research studies which included outcomes relating to health inequalities in relation to overweight and obesity totalled 21.
- Table 1** describes the observational obesity Scottish research landscape across the lifecourse.

### Qualitative research:

- Independent qualitative studies ( $n=28$ ) addressed issues such as barriers/facilitators towards obesity-related health behaviours.
- 12 studies were process evaluations of interventions
- The qualitative obesity research landscape in Scotland can be observed in **table 2**.

### Intervention research:

- Most interventions focused on secondary prevention of obesity ( $n=32$ ) while fewer ( $n=15$ ) focused on primary prevention. All intervention were micro-level, no evaluated macro-level interventions were identified.
- A number of interventions used a combination of FC (*diets, food labelling etc*) and IPA (*exercise regimes, active play etc*) ( $n=5$ ), or FC, IPA and SP (*advice, education, counselling etc*;  $n=5$ ) with FC being the most commonly used component followed by SP.
- A small number addressed only a single system/pathway (*either FC  $n=10$ ; IPA  $n=4$ , or SP  $n=10$* )
- No interventions targeted FP, one targeted PAE and one IPs.
- Surgical and drug interventions accounted for the eight interventions targeting P and IP.
- Interventions primarily targeted adults of both genders, females and children as observed in **table 3**.

TABLE 1

OBSERVATIONAL STUDIES	
Weight Status	
General population	109
Overweight, not obese	1
Overweight & obese	4
Obese	17
Morbidly obese	2
Socio-demographics	
Pregnant/postnatal	19
Children	41
Adult female	22
Adult male	1
Adult (both genders)	103
Later life (pensionable age)	6
Ethnic minority	1
Low SES	11

TABLE 2

QUALITATIVE STUDIES	
Socio-demographics	
Pregnant/postnatal	7
Children	5
Adult female	12
Adult male	2
Adult (both genders)	24
Later life (pensionable age)	1
Ethnic minority	1
Low SES	1

TABLE 3

OBSERVATIONAL STUDIES	
Weight Status	
General population	15
Overweight, not obese	5
Overweight & obese	5
Obese	20
Morbidly obese	4
Socio-demographics	
Pregnant/postnatal	4
Children	12
Adult female	10
Adult male	5
Adult (both genders)	32
Later life (pensionable age)	2
Ethnic minority	1
Low SES	4

## DISCUSSION:

- This landscape review has described the areas in which research has been undertaken in Scotland in the last decade.
- The observational/descriptive obesity research identified in this review is substantial and shows good surveillance and monitoring of trends/associations relating to obesity.
- Small amount of research that has focused on preventing obesity compared to the amount of research that has focused on reducing or maintaining weight in people who are already obese or overweight.
- There is a significant amount of research that focuses on one particular cause of obesity (*e.g. diet or physical activity*) rather than taking into account the multiple causes and pathways, despite NICE recommendations to do so (NICE, 2014).
- No macro-level interventions have been evaluated in Scotland, or interventions which target the food production system (**figures 2 and 3**), possibly due to the complexities involved in implementing and evaluating such interventions.
- Interventions targeting women and children are more common than those targeting men or elderly populations, possibly reflecting the hard-to-reach nature of such groups.

Figure 2: Obesity system map with highlighted clusters for pathways to obesity causation. (Foresight, 2007)

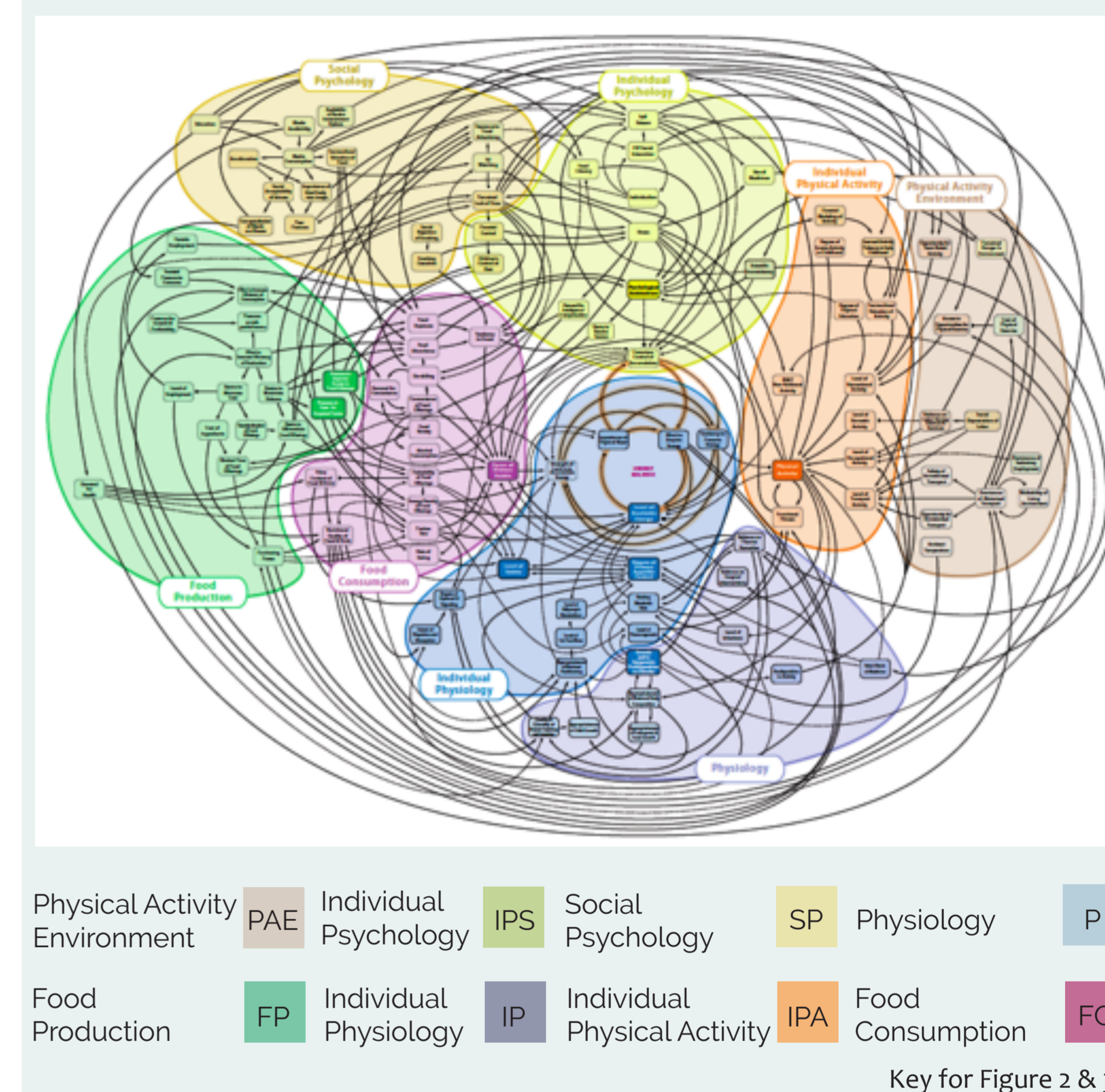
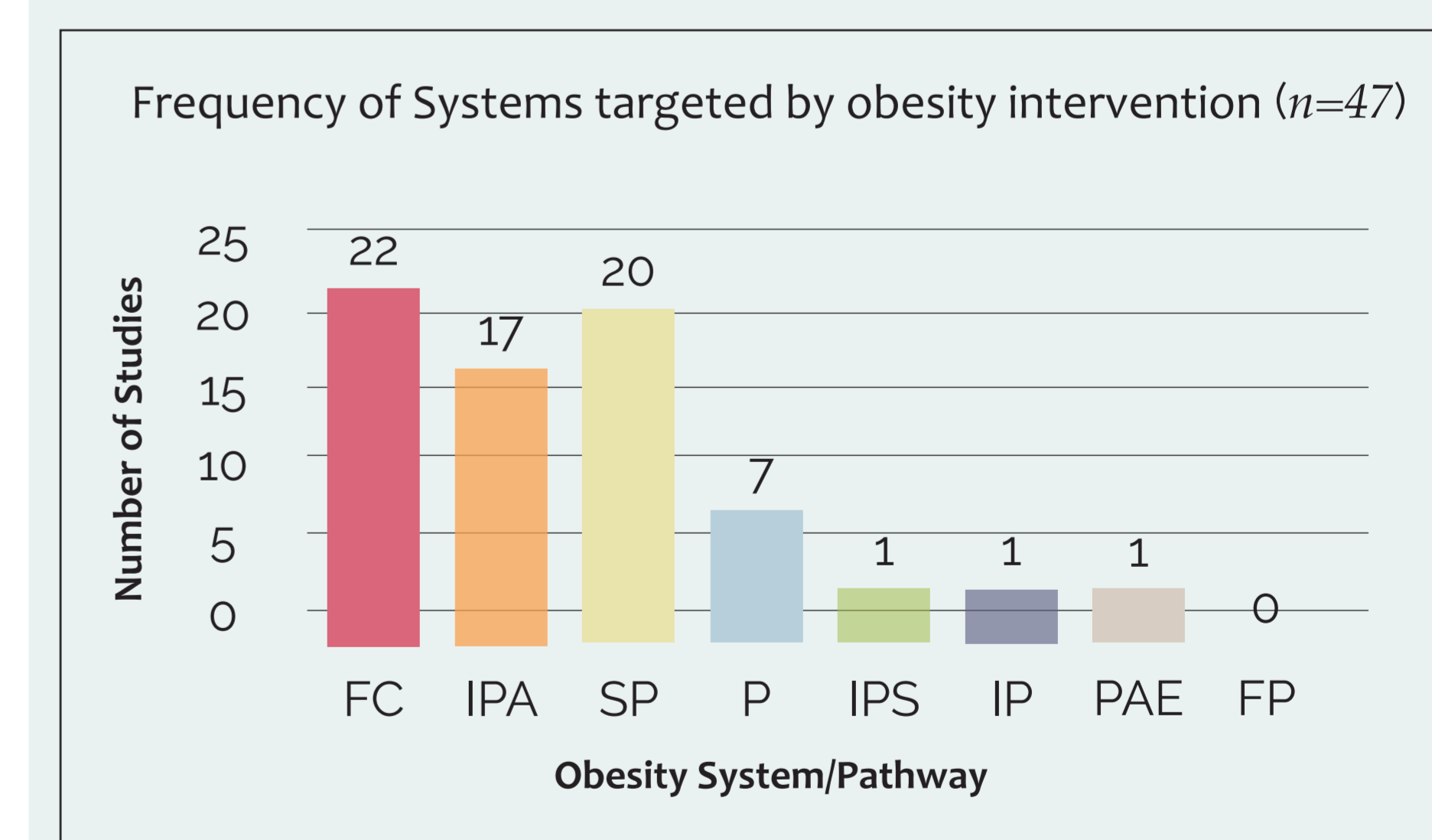


Figure 3: Frequency for which specific systems and pathways to obesity are utilised by the interventions in the Scottish research landscape



## CONCLUSION:

Obesity researchers should look to conduct research that is relevant to the Scottish population and focuses on issues such as a) preventing the development of obesity; b) approaches other than those at an individual level (*e.g. environmental, governance*); and c) evaluating current policies and practices which show promise. This landscape review employed a novel methodological approach which may help researchers and policymakers assess, monitor and prioritise obesity research efforts in Scotland.

## REFERENCES:

- BROWN, L., CAMPBELL-JACK, D., GRAY, L., HOVALD, P., KIRKPATRICK, G., KNUDSEN, L., LEYLAND, A., MONTAGU, I. & ROSE, J. 2015. The Scottish Health Survey. Edinburgh: The Scottish Government. FORESIGHT. 2007. Foresight Obesity System Map [Online]. Available: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296290/obesity-map-full-hi-res.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296290/obesity-map-full-hi-res.pdf) [Accessed 28/04/2017 2017].
- JEPSON, R., ESTRADE, M., MALDEN, S. & ARCHIBALD, D. 2015. Landscape Review of the Research on Obesity in Scotland. NHS Health Scotland.
- NICE. 2014. Obesity: identification, assessment and management [Online]. Available: <https://www.nice.org.uk/guidance/cg189/chapter/1-recommendations#lifestyle-interventions> [Accessed 28/04/2017 2017].

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