Applied Corpus Linguistics 6 (2026) 100196

Contents lists available at ScienceDirect

Applied Corpus Linguistics

journal homepage: www.elsevier.com/locate/acorp

Articles

The language of GLP-1 medication in UK Media discourse: a diachronic perspective

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ARTICLE INFO

Keywords:
GLP-1
Diabetes
Weight-loss
Media discourse
Corpus assisted discourse analysis

ABSTRACT

This study examines the linguistic representation of GLP-1 analogues, a class of weight-loss medications originally prescribed for type 2 diabetes, in mainstream UK media texts. Using corpus methods (including frequency, collocation and concordance outputs), alongside discourse analysis, this study tracks and analyses emerging discourses surrounding GLP-1s and their evolution over time. This analysis covers articles published between 2006, when the first GLP-1 medication was approved in the UK, and 2025 (the present day at the time of writing). Findings indicate a declining association between GLP-1s and type 2 diabetes, and a growing linkage with weight loss, lifestyle, body image, and the medicalisation of obesity. These shifts in media representation reflect broader societal and medical changes, including evolving framing of obesity, notions of individual responsibility, and the positioning of GLP-1s within public health discourse. Such representations may influence patient expectations, treatment decisions and social attitudes towards diabetes and obesity. The study raises critical questions about the equity, accessibility and sustainability of GLP-1 treatments. It highlights the danger of portraying GLP-1s as a panacea for obesity, which may privilege the pharmaceutical industry over public health interventions such as promoting healthy diets and active lifestyles and may ultimately impact on public health literacy.

1. Introduction

1.1. GLP-1

GLP-1 (glucagon-like peptide-1) receptor agonists or GLP-1 analogues is now a commonly used medication for type 2 diabetes management, one of the three main types of diabetes together with type 1 and gestational diabetes. *Exenatide* was the first GLP-1 medication to receive the European regulatory approval in November 2006 (Eli Lilly, 2006 November 21). GLP-1 medication reduces blood sugar by mimicking the hormone GLP-1, secreted by the intestine after eating and resulting in a suppression of appetite. In the 2010s, clinical trials of GLP-1 use on patients with overweight or obesity without type 2 diabetes indicated that GLP-1s could contribute to weight loss (e.g. see Pi-Sunyer et al., 2015; Su et al., 2016 and Zhang et al., 2015 for systematic reviews), with reports of up to 15% weight reduction (Erman, 2023). In December 2014, the Food Drug Administration (FDA) approved the first GLP-1 for weight loss use in the United States (*Liraglutide*) (Pearson et al., 2025). In 2014, *Ozempic*, commonly used to manage type 2 diabetes, received the FDA approval as a weight loss medication, and in 2021 the FDA approved *Wegovy*, the first GLP-1 developed for obesity/overweight management (CDER, n.d.; Pearson et al., 2025).

At the time of writing, mentions of specific forms of GLP-1 medications receive millions of hits across social media platforms including TikTok, Instagram and X, and show rising search volumes on search engines including Google (see https://trends.google.com). Fig. 1, for example, charts the rise in Google searches for two of the best known GLP-1 medications, *Ozempic* and *Mounjaro,* over the past five years. This data clearly indicate an exponential increase in popularity, with a notable spike in interest during August 2025. In this figure, the y-axis indicates the relative 'interest' in the search term over the specific time period, with a score of 100 indicating peak in interest/popularity of a search term(s) at that specific point in time, and scores of 0 indicating little or no data (or interest) in the search term at that specific point in time, relative to the other points in the given time period.

This growing interest aligns with the global increase in overweight and obesity, with an estimated 2.5 billion adults (43%) classified as

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https://doi.org/10.1016/j.acorp.2026.100196
Received 28 October 2025; Received in revised form 9 February 2026; Accepted 22 February 2026
Available online 23 February 2026
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overweight in 2022, including 890 million (16%) living with obesity (WHO, 2025). These conditions negatively impact health and contribute to non-communicable diseases such as cardiovascular disease, musculoskeletal problems, and type 2 diabetes (WHO, 2021, 2024a).

In parallel with the global rise of overweight and obesity, spending on weight loss medication has increased significantly. In 2023, global sales reached $24 billion, with projections estimating annual sales will reach $150 billion by 2033 (Beasley, 2024). This surge in demand has led to medication shortages for people with diabetes (Basch et al., 2023: 2).

1.2. Diabetes

Diabetes is a chronic metabolic condition that causes blood sugar levels to become too high (hyperglycaemia), which can lead to long-term damage to organs including the heart, lungs, eyes and nervous system (Diabetes UK, n.d.), disability and premature death (Roglic, 2016: 4). The World Health Organisation (WHO) identifies diabetes as a global health concern and one of the global four priority non-communicable diseases (WHO, 2016: 6), with the number of people affected rising globally (NCD-RisC, 2024).

Type 2 diabetes is the most common type of diabetes in the UK and usually develops in adulthood. In type 2 diabetes, rising sugar levels result from the body's cells being unable to effectively use the insulin produced, which leads to a gradual decrease in insulin production. In contrast, type 1 diabetes typically occurs in childhood, adolescence, or young adulthood, and is an autoimmune condition where rising sugar levels in the body are caused by the pancreas not producing enough insulin. In the UK, type 1 is the least common type, affecting 1 in 10 people with diabetes (BHF, 2025), and is primarily managed by administering synthetic insulin. Gestational diabetes occurs during pregnancy and can cause problems during birth. It may also increase the risk of type 2 diabetes in the mother and obesity in the child (Roglic, 2016: 4).

Whilst the causes of type 1 diabetes are unknown, most cases of type 2 diabetes are linked to key risk factors such as "age, overweight and obesity and physical inactivity" (Roglic, 2016: 4), along with other factors like smoking. These risk factors are also common in cases of gestational diabetes. Unlike type 1 diabetes, type 2 and gestational diabetes can potentially be reduced or placed into remission through lifestyle changes, such as increased physical activity and a healthy balanced diet, alongside medicines that lower blood sugar levels (GLP-1s).

1.3. Aims and research question

Given the sharp rise in the use of GLP-1s as weight-loss medications, it is essential to understand how these drugs are presented to the public, how they are understood, and how their use may contribute to misuse, obesity stigma (Westbury et al., 2023), or the global increase in eating disorders (Galmiche et al,. 2019). This study contributes to this area of enquiry by providing the first systematic analysis of the linguistic representation of GLP-1 medications over time. Our research question is: *How is weight-loss medication portrayed in popular UK media outlets?* To answer this, we constructed and analysed a corpus of news articles published since November 2006, when GLP-1 were first introduced as weight-loss medication in the UK, until May 2025. Using a corpus-assisted discourse analysis (CADA) approach, we examine trends in media representation, the attitudes promoted, and consider the possible reasons for the results obtained.

The next section of this paper provides the context for this study, outlining the role of media discourse in health communication and reviewing previous corpus-based studies of health and media discourse. Section 3 then describes the corpus created and analysed in this study and outlines the approach and specific corpus methods used. This is followed by the analysis in Section 4 and concluding remarks and reflections in Section 5.

2. Health and the media

Journalism is "one of the ways society tells itself about itself" (Dickinson, 2008: 1), with news media providing a "window on the world" (Tuchman, 1978: 1). In the health context, news media discourse plays a key role in shaping public understanding and experience of health-related issues (Searle, 2003), as it has the power to influence opinion and "motivate actions and policies in relation to health and illness" (Yu and Brookes, 2024: 286). Media discourse therefore contributes to the development of health literacy, defined as:

> *'The personal knowledge and competencies which accumulate through daily activities, social interactions and across generations. Personal knowledge and competencies are mediated by the organizational structures and availability of resources which enable people to access, understand, appraise, and use information and services in ways which promote and maintain good health and wellbeing for themselves and those around them.'*
>
> (Nutbeam and Muscat, 2021: 1582)

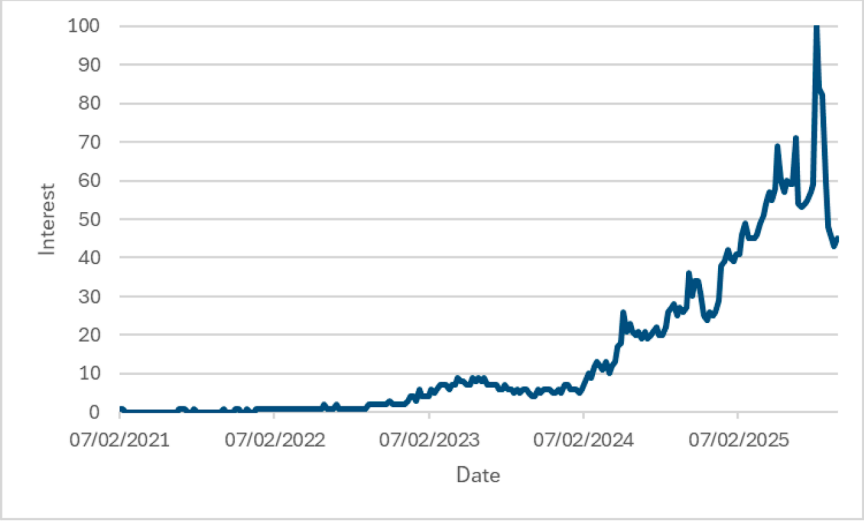

Fig. 1. Rising references to *Ozempic* and *Monjouro* on Google (data from Google Trends).

Low levels of health literacy are associated with increased healthcare costs, higher mortality rates, more frequent hospitalisations, and poor understanding of how to manage health conditions, including adhering to prescribed medication (Rowlands, 2014: 2130). Additional consequences include increased patient anxiety, the spread of misinformation, and communication difficulties (Osborne et al., 2013). Providing health information that is as widely accessible and comprehendible as possible is therefore of paramount importance.

Corpus methods are increasingly being used in research on health-related language. Recent studies have focused on topics such as public reception and understanding of health messaging, for example during the COVID-19 pandemic (Vilar-Lluch et al., 2025; Jones et al., 2023; McClaughlin et al., 2023; Vincent et al., 2023), diachronic changes in patient information (Pelizzari, 2025), health policy implementation (Diaz, 2022), vaccine hesitancy (Demjén et al., 2025). Research also explores media representations of specific health conditions, including mental health conditions (Balfour, 2023; Price, 2022), communicable and non-communicable diseases (e.g. Bednarek, 2020 on diabetes and Jones and Collins, 2020 on HIV) and, directly relevant to this study, news representations of obesity (Atanasova and Koteyko, 2017; Baker et al., 2020; Brookes, 2022; Brookes and Baker, 2022; Collins et al., 2024) and discourses surrounding diabulimia (a contested but not officially recognised eating disorder characterised by the deliberate restriction of insulin by individuals with type 1 diabetes) in online support groups (Brookes, 2018).

Corpus-based studies on representations of obesity in mainstream British press have observed stigmatising discourses, including portrayals of obesity in fatalistic terms and as being (partly) responsible for the ongoing pressures faced by the National Health Service (NHS) (Brookes, 2022). Obesity is increasingly portrayed as a risk factor of ill health (e.g. developing diseases such as cancer, sleep deprivation), which contributes to popularise a discourse of fear (Brookes and Baker, 2022). While criticism towards societal inequalities, including discussions around race-based disparities, have been identified (Brookes, 2022), neoliberal discourses appealing to personal responsibility predominate (Baker et al., 2020; Brookes, 2022; Brookes and Baker, 2021, 2022). Obesity is framed as a moral failure, and individuals are attributed the responsibility to take control of obesity for their own health and the national healthcare system. These discourses contribute to obesity stigma, including both social and internalised stigma. Stigmatising discourses have been particularly observed in right wing leaning newspapers, especially tabloids, whereas left-leaning broadsheets have been associated with societal frames (i.e. acknowledgement of socio-political factors – see Brookes, 2022). Besides discourses of personal responsibility, other frames of obesity identified in British (and German) news media include obesity as a biological problem and as a societal responsibility (Atanasova and Koteyko, 2017).

As discussed in Vilar-Lluch and Knight, (n.d.), there is a close connection between obesity stigma and type 2 diabetes, which has been perpetuated by the media (Blackwood et al., 2023; Browne et al., 2013: 6; Browne et al., 2014: 4). Stigma associated with type 2 diabetes include framing the condition as a moral failure which is linked to poor choices (a "lifestyle disease", see Browne et al., 2013: 3), obesity and laziness, without considering the emotional and financial burdens of the condition. Stigma associated with type 1 diabetes often arises through its association with type 2 (Himmelstein and Puhl, 2021; Teixeira and Budd, 2010), with type 1 often receiving less (and sometimes inaccurate) coverage in the press. This association sometimes prompts individuals with type 1 to distance themselves from those with type 2, which again reinforces type 2 stigma (Browne et al., 2014: 3; Liu et al., 2017).

Vilar-Lluch and Knight (n.d.) underline the need for appropriate communication to reduce diabetes stigma, particularly through awareness raising and increasing health literacy. The study signposts to numerous national and global initiatives that actively advocate for improving the language of diabetes (e.g. Diabetes Australia, 2021; Speight et al., 2021), including offering explicit guidelines on appropriate language use (e.g. IDF, 2014; NHS England, 2018). Results from Vilar-Lluch and Knight (n.d.) analysis of the linguistic representation of type 1 and type 2 in UK newspapers between 2020–2024 evidence that while there has been a notable increase in the use of 'recommended' language (i.e. language without connotations of negative judgement, blame, criticism, lack of respect etc.), 'language to be avoided' (i.e. use of terms not recommended) has not diminished. The authors also report the use of "medical and free will discourses while omitting references to social determinants of health" (Forthcoming, also see Bailey and McCrossin, 2016; Bednarek and Carr, 2020: 501; Santyarini and Fajri, 2024).

Studies of GLP-1s proliferate in the clinical sciences, pharmacology and public health, but have received comparatively less attention in the fields of language and communication. In particular, the media's linguistic representation of GLP-1s has yet to be systematically investigated. Basch et al. (2023) provide one of the first descriptive analyses of a specific form of GLP-1, in the language of the first 100 English language TikTok videos posted under the hashtag #Ozempic. These videos, which were viewed c.70 million times, and received over 2.1 million likes, were primarily created by consumers (86%) of the medication rather than healthcare professionals (14%). Most of the content (>50%) focused on plans to take Ozempic, reports of current use and its use for weight loss. Around 15% of the videos encouraged others to take the medication, depicting it in a positive light. Fewer than 15% mentioned side-effects and <5% addressed "off-label prescription use" (i.e. its use for other purposes than what it was originally intended) or "medication shortage". The study calls for increased awareness among healthcare professionals about the consequences of prescribing drugs like Ozempic for off-label use, particularly when decisions may be influenced by information sourced from social media (Basch et al., 2023: 3).

Furthermore, Somani et al., 2024 utilised topic modelling and sentiment analysis to examine discussions around GLP-1s in Reddit. Salient topics included associations of GLP-1s with weight loss, increased psychological wellbeing because of weight loss, side effects and issues around access, suggesting high social interest around GLP-1s and an overall positive sentiment. The current study adds to existing literature by investigating how GLP-1s have been portrayed in the UK media since they were first introduced in 2006. The study examines trends in media representation, the attitudes promoted, and considers the possible reasons for the results obtained.

3. Methodology

3.1. Data

To undertake this study, a diachronic corpus of news articles published by UK-based news outlets was built, enabling us to track changes in language use over time. Since we are exploring a specific topic (i.e. representations of GLP-1's), a specialised corpus was built with clear design parameters to enable us to fully answer our research question.

As the first GLP-1 medication, *exenatide*, received European regulatory approval in November 2006, 1st November 2006 was chosen as the start date for data collection. Even though this medication was not fully licensed in the UK until 2007, it is likely that its initial approval would have received some media attention relevant to this study. The end date comprised the final month prior to constructing the corpus, i.e. 31st May 2025.

As with many other corpus and discourse studies, this study draws on news media discourse as 'data' not only due to its relevance but also its "abundance" (Marchi, 2022: 576); that is, the amount of language available is vast and can be accessed/amassed quickly. The news articles were retrieved using Nexis Advance (https://advance.lexis.com), a subscription-based archive of digital texts which enabled us to access, query and retrieve newspaper texts (at a relatively high level of accuracy) for further analysis. To focus specifically on the representation of

varieties of GLP-1 weight-loss medication in the UK, the search was restricted to English-only texts from Britain (England, Wales, Scotland) and Northern Ireland which included reference to the specific forms of medication outlined in Table 1, along with the term "GLP-1" itself.

The search string used in Nexis Advance was as follows: *("GLP-1" OR "Bydureon" OR "exenatide" OR "Mounjaro" OR "Tirzepatide" OR "Ozempic" OR "Rybelsus" OR "Trulicity" OR "Dulaglutide" OR "Semaglutide" OR "Saxenda" OR "Liraglutide" OR "Wegovy" OR "Albiglutide" OR "Eperzan")*. Note that *Wegovy, Mounjaro* and *Saxenda* (in boldface in Table 1) are now approved specifically for weight loss (in 2021 and 2023 respectively), with the Medicines and Healthcare products Regulatory Agency, for example, authorising the use of *Mounjaro* for adults with a BMI of 30kg/m^2 or more (obesity) as well as for those with a BMI between 27–30/m^2 (overweight) with other health related problems including prediabetes, heart problems, high cholesterol or high blood pressure (MHRA, 2023). The other forms of *Semaglutide* and other medications are approved specifically for those with type 2 diabetes and heart disease. It is thought that the approval of *Wegovy* alone caused "a spike in interest in nonsurgical alternatives to weight loss", although it is a drug which contains a stronger dose of *Semaglutide* than the other medications, with potential for more side effects which may include nausea, vomiting and diarrhoea (Basch et al., 2023: 1).

Terms such as 'weight loss' and 'diabetes' were not used in the search as they recalled articles that were not directly relevant to the specific focus of this study (i.e. the representation of GLP-1 medications), although these topics are, of course, related. To focus on representations in the British press at a national level, articles were only extracted from eight of the most widely read (and 'popular') national newspapers (see Tobitt, 2025; YouGov, 2025), including their daily, Sunday and digital editions, as well as their London editions (subsumed under the main newspaper title) given that there is a critical mass of readers represented there. This comprises *Daily Mail, Independent, Times, Sun, Mirror, Telegraph, Guardian* and *Metro*.

Raw news articles were extracted from Nexis in an .rtf format, which included extraneous metadata including copyright information. A Python script (developed by Sean Roberts, Cardiff University) was used to isolate the essential sections of each article, including the title, publication date, source, word count and full text, and remove any additional boilerplate content that was not relevant to the analysis. The script also removed duplicate articles, defined as articles sharing the same title, body text and publication date from the same newspaper. Slightly edited versions were consolidated by retaining the most recent version. Identical articles which have the same title but different body text, different titles and the same body text, or the same titles and/or body text but from different publications were retained, as they represent distinct publication contexts and are targeted at different readerships, and fully represent the recurrence and spread of key narratives across media outlets. The output of the script is an XML corpus file which can be uploaded to Sketch Engine (Kilgarriff et al., 2004, available at www.sketchengine.eu), a corpus analysis toolkit, for further analysis.

The GLP-1 corpus contains 9,058,236 tokens (7,652,527 words) across 7,982 articles, as detailed in Table 2. Appendix 1 details the token distribution across newspapers for the whole corpus and across pre-licensing and post-licensing corpora, for reference. Note that whilst Appendix 1 shows changes in media attention to GLP-1 across time and outlets, exploration of differences in reporting of GLP-1 across media outlets, is beyond the scope of the current study.

Table 1
GLP-1 analogue medication comprising the corpus search terms.

Medication name	Brand name(s)
Exenatide	*Bydureon*
Semaglutide	*Rybelsus; Ozempic;* ***Wegovy***
Dulaglutide	*Trulicity*
Liraglutide	***Saxenda***
Tirzepatide	***Mounjaro***
Albiglutide	*Eperzan*

Table 2
GLP-1 corpus overview.

Year	Article count	Token count	Year	Article Count	Token count
2006	1	592	2016	10	9,944
2007	3	1,511	2017	22	11,418
2008	9	3,772	2018	22	33,542
2009	9	8,405	2019	13	13,610
2010	9	6,707	2020	35	34,553
2011	5	5,513	2021	60	76,122
2012	30	16,607	2022	124	128,120
2013	22	11,738	2023	1,623	1,770,580
2014	21	13,834	2024	3,505	4,059,916
2015	28	24,146	2025	2,431	2,827,606
			TOTAL	7,982	9,058,236

Fig. 2 shows the number of articles containing the search terms over the study period. From the initial approval date, the coverage of GLP-1s in the UK press remained low, with fewer than 35 articles in every year until 2020. In 2021 (when *Wegovy* received the FDA approval), this number rose to 60 articles, which then doubled to 124 in 2022 (when it received approval in the EU) and then rose exponentially to 1,623 the following year, which again doubled in 2024 (3,505 articles). Whilst the articles for 2025 only include those collected in the five months to May, it is projected that number of articles including this topic will likely double again by the end of the year (i.e. note that there is not a decrease in UK media interest in GLPs in 2025, but simply that we only had 5 months of data for this year). Consequently, the token count for articles that mention GLP-1 across the period rise from a few hundred, to thousands of words, to multi-millions from 2023 onwards.

3.2. Approach

Fig. 2 underlines the rising interest in GLP-1 analogues. To better understand the discourses surrounding these medications, we employ a corpus assisted approach to discourse analysis (CADA) (Baker, 2006). CADA is closely linked to Fairclough's three-dimensional model of Critical Discourse Analysis (CDA) which focuses on the analysis of (i) text, (ii) discursive practice and (iii) sociological practice, which corresponds to linguistic description, interpretation of textual analysis and explanation relying on sociohistorical contextual factors (Fairclough, 1995, 2003). Corpus methods offer quantitative ways into the dataset, providing systematic and replicable ways of *describing* language patterns, reducing the risk of 'cherry picking' and relying on isolated examples.

At the discourse level, corpora allow for the examination of how linguistic features are reproduced, circulated or challenged. This includes an inductive approach to categorising and analysing patterns of meaning across texts in the corpus, which provides the basis for *interpretation*. Whilst at the level of sociocultural practice, the findings of the corpus analysis are embedded in wider social and theoretical frameworks to *explain* how emergent discourses link to ideology and power and how these shape understanding and experience. The possibility to combine quantitative and qualitative analyses makes of CADA a fruitful approach to large datasets, ensuring a level of replicability difficult to achieve with qualitative linguistic analysis, but providing more nuanced insights into language use than those allowed by automated methods such as sentiment analysis (e.g. Somani et al., 2024).

As a way-in to the analysis using Sketch Engine, we begin with a top-down exploration of frequency (i.e. rate of use; facilitated by using the Wordlist and Trends functions) as a means of establishing basic patterns in language use and meaning. The Wordlist function generates frequency lists of different attributes in a corpus (e.g. words, lemmas, specific parts of speech), based on their raw frequency and frequency per million.

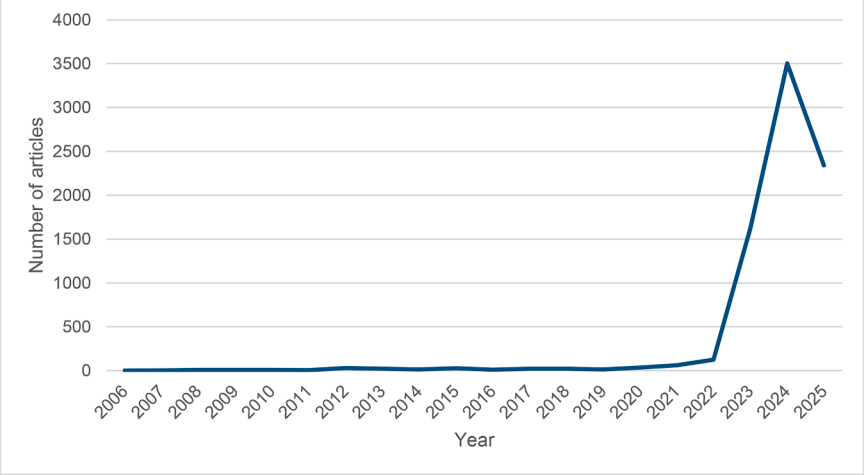

Fig. 2. Number of articles including the GLP-1 related search terms in the corpus.

Coupling this, Sketch Engine's Trends function tracks the changes in lemma use over time, ranking them in order of their absolute value of change, that is with the biggest changes in use included at the top of the list, irrespective of whether the change is negative (a decrease in use) or positive (an increase in use). To calculate Trends, Sketch Engine splits the corpus into time-based sub-corpora, normalises word frequencies per million words for each time period and then models changes over time using best-fit trend analyses such as linear regression and Theil-Send estimation (see Kilgariff et al., 2015). The Trends function accounts for words that are used multiple times in a single document to prevent extra weight being given to them. The value given in the 'Trend' column indicates the degree of change in usage of the lemma over time (i.e. a Trend value of 1.00 indicates that the lemma has no or limited usage, to frequent usage).

This is followed by a more detailed examination of patterns of lexical and grammatical co-occurrence (i.e. collocation, using the Word Sketch function). Collocation strength is calculated using the logDice metric in Sketch Engine, an effect size measure (i.e. results are not affected by corpus size, hence allowing for comparisons across sub-corpora of different sizes if desired) which measures how typical a co-occurrence of a given word is with another word; with a high logDice score indicating a strong and typical bond (Rychlý, 2008). Finally, a more bottom-up approach is used in the examination of concordance lines (using the Concordance function), which present a given search term in its lexical co-text, to gain a deeper understanding of patterns of meaning generated in the corpus, and to aid more qualitative interpretations of the data.

4. Analysis

4.1. Trends

Given the relatively low number of articles featuring the search terms until 2023, the majority of the top 200 ranked items are those which show a positive value; since the years 2023–2025 include more data, this is perhaps to be expected. Despite this, a closer inspection of terms which markedly increase or decrease in use offers a useful springboard for examining the development of discourses. Table 3 details the fifty lemmas that have seen the most significant changes in use in the GLP-1 corpus over time, with lemmas experiencing a reduction in use noted in boldface for ease of reference.

Table 3
Trends in lemma use over time in the GLP-1 corpus (ranked by absolute value of change).

Rank	Lemma	Trend	Freq.	Rank	Lemma	Trend	Freq.
1	*love*	1.00	3,724	26	*old*	0.58	2,950
2	*my*	0.87	26,681	27	*thing*	0.58	6,540
3	*always*	0.84	3,637	28	*your*	0.58	13,496
4	***diabetes***	**−0.81**	**10,713**	29	*young*	0.58	2,847
5	*him*	0.81	4,069	30	*little*	0.58	2,982
6	*his*	0.78	16,445	31	*really*	0.58	6,093
7	*story*	0.78	2,251	32	*myself*	0.58	2,646
8	*bit*	0.78	2,286	33	*hit*	0.58	2,665
9	*home*	0.75	3,154	34	*everything*	0.58	1,997
10	*head*	0.73	2,310	35	*her*	0.55	42,948
11	*open*	0.73	2,560	36	*link*	0.55	3,157
12	***type***	**−0.70**	**6,336**	37	*face*	0.55	4,715
13	*focus*	0.70	2,282	38	*follow*	0.55	4,277
14	*never*	0.70	4,647	39	*actually*	0.55	2,264
15	*me*	0.67	13,993	40	*play*	0.55	2,267
16	*he*	0.65	28,759	41	*away*	0.55	2,365
17	*friend*	0.65	3,399	42	*want*	0.55	9,050
18	*set*	0.62	2,977	43	*night*	0.55	2,570
19	*man*	0.62	3,570	44	***drug***	**−0.53**	**29,031**
20	*next*	0.60	3,751	45	*think*	0.53	10,586
21	*woman*	0.60	6,572	46	*like*	0.53	17,950
22	*age*	0.60	4,362	47	*place*	0.53	2,688
23	*leave*	0.60	4,443	48	*jab*	0.53	7,347
24	*point*	0.60	3,778	49	*share*	0.53	7,007
25	*small*	0.58	3,247	50	*she*	0.53	51,411

A cursory inspection of Table 3 reveals three main reporting trends in the GLP-1 corpus. The most prominent change is seen with the lemma *love*, which despite a low frequency rate overall (3,724), sees a positive rise of 1.00 over time. The most common collocating subjects and objects of *love* include references to food (*food, [chicken] nuggets, chocolate*) and the body (*body, curve*), and family relationships (*ones, husband, kid, family, parent*), suggesting an increased use of references to GLP-1 in the contexts of nutrition and body image which would mirror the adoption of GLP-1s as weight loss medication.

Table 3 also signposts to some of the primary target readership of the articles on GLP-1s, with evidence of an increased use of first-person pronouns (*me, myself*) and adjectives (*my*), gendered pronouns (*he, she, him*) and adjectives (*his, her*), descriptors of age (*young, old*), and gendered nouns (*man, woman*). Pronominal references and possessive determiners suggest a tendency to report about GLP-1s in relation to individual stories, including representations of individual voices in direct quotations, and age and gender-based portrayals of the individuals depicted (see Section 3.4 for further discussion). The increasing reporting trend towards individualisation contrasts with alternative news reports of GLP-1s which could foreground GLP-1 scientific development, purposes, uses, or changes in regulations.

The third main trend observed is a reduction in use over time of the lemma *diabetes*, the lemma with the most prominent reduction with an absolute value of change of –0.81. The lemma *type*, often collocating with *diabetes* (in 4,452 occurrences, or 70.26%), ranks second (with an absolute value of change of −0.70). These trends suggest that the approval and increased use of GLP-1s as weight loss medication have come with a relative reduction of references to GLP-1s in relation to type 2 diabetes management in news reporting.

In what follows, we explore the discourses associated with these three main reporting trends. Section 3.2 considers uses of GLP-1 and diabetes in the news corpus and examines whether the decrease in the lemma *diabetes* has come with a shift in GLP-1 news reporting (from type 2 diabetes management towards a foregrounding of weight loss). Section 3.3 considers reports of GLP-1 in relation to nutrition, and section 3.4 in relation to individual users.

4.2. GLP-1 and (type 2) diabetes

The decrease in references to *diabetes* and *type* in the news reports included in the GLP-1 corpus is illustrated in Figs. 3 and 4, which show the change in relative frequency (i.e. frequency per million words) of use. Although there are fewer articles related to GLP-1s in the years to 2022 (as seen in Fig. 2), those that were published were more likely to explicitly mention the link between GLP-1s and *diabetes* than those beyond even 2020. When diabetes type is specified, *type 2* predominates over *type 1* (4,570 and 170 co-occurrences respectively). Type 1 diabetes is often used in close context with type 2 (e.g. in comparative descriptions referring to prevalence, causes, management, and reports of misdiagnoses of type 1 for type 2 in adults).

Besides references to diabetes types (*gestational, type 2, type II*), the most common modifiers of *diabetes* across the corpus, nouns commonly collocating with *diabetes,* include references to specific health conditions (*obesity, disease*), interventions/treatments (*medication, medicine, drug, treatment, Ozempic, Mounjaro*), people (*patient*) and medical processes (*diagnosis*). Comparing the collocates of the phrase *diabetes* + *and/or* in the news reports published until 2020 (pre-licensing of Wegovy) to those of the years 2021–2025 (post-licensing) shows that references to health conditions are especially predominant in later years, particularly *obesity, disease* and *pressure*, the latter in relation to 'high blood pressure' (Fig. 5). While references to type 2 diabetes management medications feature among the pre-licensing collocates (*Liraglutide, Albiglutide*), post-licensing collocates only include references to the generic noun *drug* and *Wegovy*, which is compared to *Ozempic* (a GLP-1 used for type 2 diabetes) in all occurrences (90 instances in close context, 4 instances in contiguous sentences).

The recurrent association between diabetes and obesity (*diabetes and/or obesity*) in the post-licencing sub-corpus (Fig. 5) carries a strong medicalisation discourse. About half of the co-occurrences (48.1%; 165 out of 343) include identifications of obesity as a disease. This identification may be explicit (e.g. *metabolic diseases like diabetes and obesity, metabolic health conditions like diabetes and obesity, chronic diseases such as obesity and diabetes*, underlined in example 1), or implicit. Implicit identifications include referring to individuals with obesity as *patients*, management and management strategies as *treat, prescribe, treatment, medication, drug therapy, cure*, and hyperbolic identifications of obesity and diabetes as a *worldwide pandemic* or a *modern epidemic of common diseases.*

> [1] *She fears that many left-leaning residents, especially those with good access to healthcare, are vulnerable to the "medical freedom" movement, especially when it is wrapped around a wellness agenda that promises to combat chronic diseases such as obesity and diabetes.* (*The Guardian*, 29/11/2024)

The rise of medical discourse in GLP-1 news reporting is echoed by the increase in references to health (*health* has a frequency of 10,587, and a positive rise of 0.25). The most significant collocates of *health* include *mental* (1,074 co-occurrences, the most top-ranked collocate), *public* (437), generic references to health problems (*problems* [427], *conditions* [322], *issues* [314]), *service* (315) and references to improvement (*benefits, improve* with 316 and 256 co-occurrences respectively). When *mental* is used as pre-modifier (noun phrase *mental health,* 596 co-occurrences), it mostly refers to poor mental health, which is repeatedly attributed to obesity and stigma (e.g. *she still felt too big, which was harming her mental health – The Daily Mail*, 2023). Other (less frequent) uses include references to the impact of beauty canons (e.g. *the pernicious effect of diet culture on women's mental health – The Daily Mail,* 2024) and to potential side-effects of weight loss medication (e.g. *worried about the effect* [of weight loss medication] *on their* [children] *mental health – The Daily Mail,* 2025). Obesity is also associated with *ill health* (105 co-occurrences) and specific conditions (*heart health, gut health*). Besides individuals' health, *public health* is also depicted as negatively impacted by obesity, both by health-related issues derived from it (e.g. *Obesity has long posed a threat to public health –*

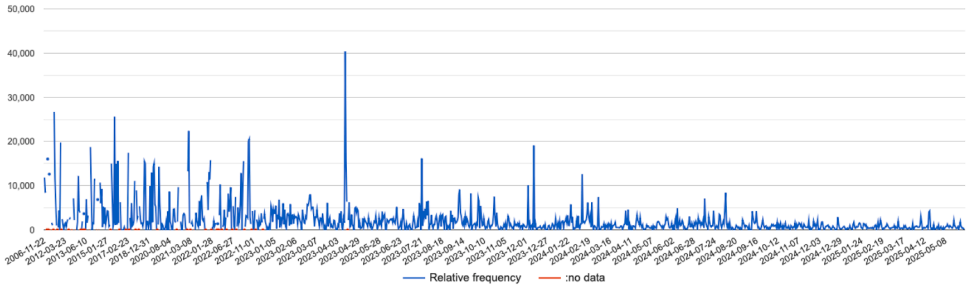

Fig. 3. Relative frequency of the lemma *diabetes* in the GLP-1 corpus.

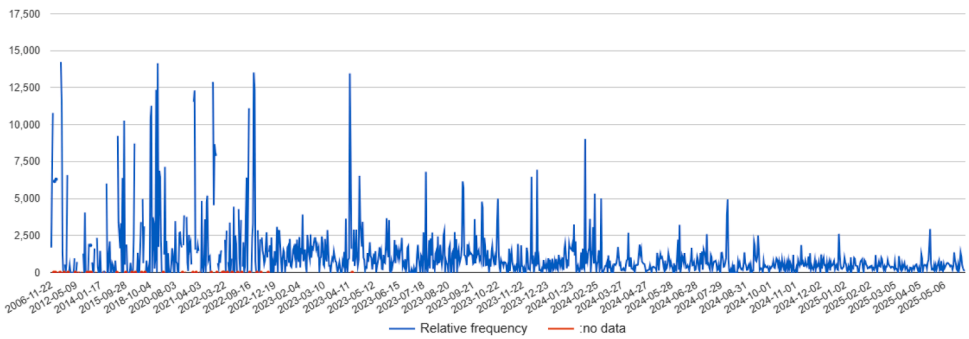

Fig. 4. Relative frequency of the lemma *type* in the GLP-1 corpus.

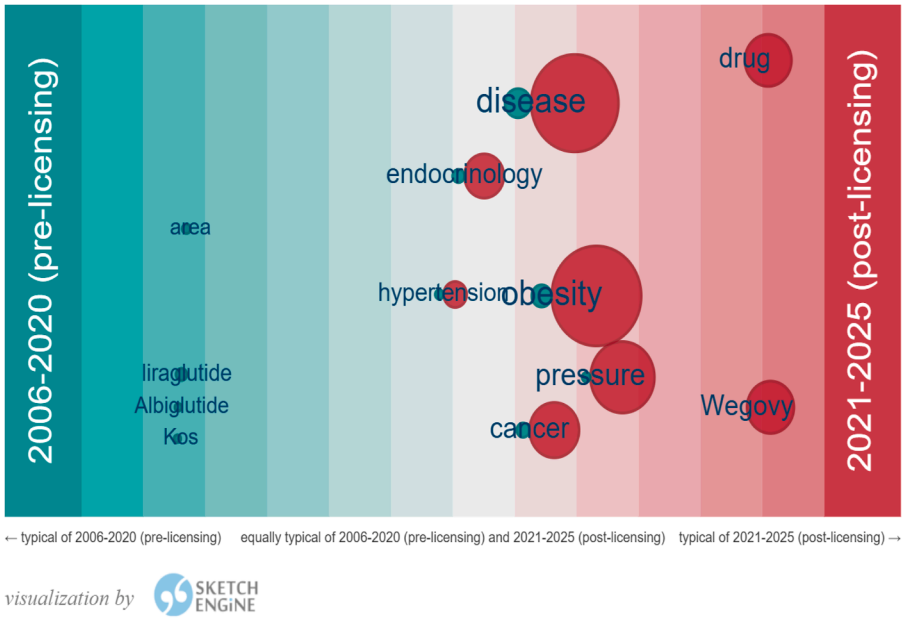

Fig. 5. Comparison of the collocates of *diabetes* + *and/or* during 2006–2020 and 2021–2025.

The Times 2024) and by the weight loss medications, which may cause shortages for type 2 diabetes users (e.g. *this has exacerbated existing shortages […] with 'serious consequences for public health – The Daily Mail,* 2024). Despite adding to reported shortages and being attributed *ill health* effects, GLP-1s are recurrently depicted as beneficial (*improve health*, 350 co-occurrences, e.g. *'major breakthrough for improving the health of people with obesity' – The Times* 2022).

While the use of medical discourse can counter obesity (and type 2 diabetes) stigma by emphasising the impact on general health and resisting the common association with free will and moral failing, this is not always the case. As shown in examples 2 and 3, medical discourse may be adopted with explicit associations of obesity (and type 2 diabetes) with *lifestyle diseases* (underlined in example 2) and *burdens* for the healthcare system (example 3). Arguably, in such cases, the negative moral judgement is intensified by framing the individual as responsible for their poor health, as a result of individual lifestyle choices (example 2), and for acting against the common good (underlined in example 3).

[2] *Why do we tolerate road deaths?"* […] *"It's the same for metabolic diseases like diabetes and obesity - no one should fall ill with these lifestyle diseases.* (*The Times*, 10/09/2023)

[3] *It [Ozempic] possibly might reduce the burden on the NHS because there's lots of health issues like diabetes and obesity. If it reduced those burdens then yeah I think it's a good idea.* (*The Daily Mail*, 15/10/2024)

Depictions of obesity as a burden for an already stretched NHS have been observed in news reports during the Covid-19 pandemic (Brookes 2022). Example 3 further presents GLP-1 as the panacea for obesity management and a means to decongest the NHS from obesity-related diseases, raising questions about access, treatment sustainability, and the omission of preventive social measures (e.g. promoting affordable healthy diets and active lifestyles).

4.3. GLP-1, food industry and lifestyle

Love is the lemma with the most positive rise in the GLP-1 news corpus (Table 3). The sharp increase in references to *love* is specifically observed in those articles published after the licensing of Wegovy (2021–2025 post-licensing sub-corpus), with a positive rise of 0.97 (frequency of 3,687). Within the post-licensing sub-corpus, *food* is the most frequent collocate as direct object in the common noun phrase *love X food* (frequency of 86). *Food* also shows a positive rise of 0.38 in the corpus, with 395 and 11,088 occurrences in the pre-licensing and post-licensing corpora respectively. As illustrated in Table 4, the phrase often includes first-person pronouns as grammatical subject (43 times), showing a recurrent use of the phrase in reported speech/direct quotes documenting the thoughts and experiences of individuals (example 4). The third-person female pronoun is ranked as the second most typical and recurrent collocate (21 times, see Table 4), evidencing a predominance of references to female individuals in reports about nutrition habits and food preferences.

Table 4
Collocates for *love food* in the GLP-1 2021–2025 (post-licensing) sub-corpus.

Grammatical pattern	Collocate	Freq	Score
pronominal subjects of 'love food'	I	43	3.94
	she	21	3.73
	we	1	0.46
	he	1	0.2
subjects of love	people	2	2.18
	attention-seeker	1	12.68
	family	1	5.8
modifiers of 'love food'	still	5	4.8
	always	3	4.37
	absolutely	2	6.46
	simply	2	5.72
	obviously	1	6.88
	just	1	1.41

[4] *I **love** junk food, from crisps and chocolate to takeaways, and when I'm happy and in a settled relationship I always balloon* (*The Sun*, 27/02/2025)

More generally, common collocates of *food* in the post-licensing sub-corpus include references to unhealthy types of food (*fast, junk, unhealthy, processed, ultra-processed, fatty*) and unhealthy eating habits connoting overconsumption (*crave, craving, addiction*) (see Table 5, particularly modifiers of *food*, verbs and nouns, and examples 5–6). Example 5 also references the consumption of these foods, in addition to those who provide/create the food, and those responsible for promoting it (*industry*) – see also collocates for the noun phrase of 'food' as pre-modifier in Table 5 (e.g. *company, system, industry, advertising*).

[5] *Some people really struggle with their weight, not helped by the fact that we live in a highly obesogenic society fuelled by an industry intent on stuffing us full of low-value, high-profit **processed** food.* (*The Daily Mail*, 19/11/2022)

[6] *We are surrounded by **processed** foods, high in **fat** and **sugar**.* (*The Daily Mail*, 19/05/2021)

Concordances for the collocations *processed food* (248 occurrences) and *ultra-processed food* (207 occurrences) in the 2021–2025 GLP-1 sub-corpus reveal three main intertwined and sometimes competing free will and societal discourses: identification of the food industry as those to blame for the increase in obesity and health-related conditions; identification of (ultra)processed food consumption as a lifestyle choice; and, less commonly, an identification of (ultra)processed food as a forced choice for low income families.

Attributions of responsibility to the food industry are recurrent and may be explicit or indirect. Examples 5 and 7 explicitly identify the food industry as the primary responsible agent of obesity – as a nominalised passive subject in example 5 (*fuelled by an industry intent*), where the food sector is inferred from the reference to their commercial activities, and as active subject in example 7 (*corporations selling*), which further includes explicit and evoked negative moral judgements of the food industry (through the pre-modifier *predatory [corporations]*, and by qualifying the food as *addictive*). Other times, criticisms of the food industry are indirect, such as example 6, where blame is metonymically inferred from the negative evaluation of the (ultra)processed food, identified as primary cause of obesity.

[7] *We know the primary cause of pandemic obesity is ultra-processed **food** - predatory corporations selling addictive food that does enormous harm to people's bodies.* (*The Daily Mail*, 13/03/2023)

While the food industry is recurrently identified as the one responsible for the proliferation of unhealthy food, (ultra)processed food consumption is portrayed as a lifestyle choice, such as example 8, where weight loss medication is explicitly identified as unnecessary *(won't need*) when *UPF* (ultra-processed foods) are avoided. In example 8, the inclusion of direct addresses to the public (*you*) further contributes to ascribe negative moral judgements to those that follow an unhealthy diet. Limitation of free choice is only recognised for low-income families – see example 9, where deprived families are explicitly characterised as *powerless* in the face of the lack of alternative affordable healthy options. However, references to the economic burden are largely anecdotal. For instance, *food insecurity* is only explicitly mentioned five times in the GLP-1 corpus, despite having been an ongoing concern in the UK exacerbated since the food and drink rise inflation in 2022 (Francis-Devine et al., 2024; Francis-Devine, 2024)

[8] *There needs to be warnings on Ozempic and warnings on ultra processed **food**, you won't need a drug if you don't eat UPF.* (*The Mirror*, 10/11/2024)

[9] *Highly addictive ultra-processed **food** and products high in fat, sugar and salt now make up half our meals. Parents, particularly those on the*

Table 5
Collocates for *food* in the GLP-1 2021–2025 (post-licensing) sub-corpus.

Grammatical pattern	Collocate	Freq	Score	Grammatical pattern	Collocate	Freq	Score
modifiers of food	processed	248	10.87	*verbs with food as object*	eat	395	10.86
	junk	248	10.86		be	159	6.3
	ultra-processed	207	10.65		love	86	9.59
	healthy	184	9.72		make	73	7.63
	fast	124	9.82		enjoy	70	9.41
	unhealthy	112	9.69		digest	62	9.58
	more	87	8.15		consume	58	9.27
	good	73	7.82		use	54	7.41
	certain	72	8.86		avoid	51	8.92
	whole	71	8.76		process	49	9.23
	less	66	8.82		crave	48	9.19
	fatty	60	8.81		have	37	5.4
Nouns modified by food	noise	567	12.31	*verbs with food as subject*	be	590	7.62
	intake	148	10.25		have	100	6.29
	craving	119	10.18		leave	36	9.07
	industry	95	9.52		become	31	8.29
	company	93	8.73		go	22	7.18
	choice	68	9.16		contain	21	8.48
	system	55	8.53		make	20	7.16
	addiction	49	8.91		repulse	18	8.87
	advertising	43	8.8		do	18	6.27
	environment	35	8.41		include	16	6.95
	taste	34	8.45		get	14	7.05
	consumption	32	8.29		take	13	6.24

lowest incomes who are drawn to cheaper prices and long shelf life, feel powerless to curb their family's consumption. (*The Times*, 16/01/2024)

The lemma *industry* itself commonly collocates with specific stakeholders who link to GLP-1s, obviously including the *pharmaceutical* industry (see Table 6), but also terms broadly relating to the arts and entertainment (*fashion, film, entertainment, music*), diet (*weight watchers, diet*), food and hospitality (*hospitality, restaurant, food*) and *tobacco* industry.

The moral framing of health behaviours often intersects with cultural ideas of the body, particularly those perpetuated by the fashion industry. *Fashion industry* has a frequency of 81 across the corpus and is often explicitly represented as being responsible for GLP-1 proliferation. This is evidenced by references to the *Ozempic pandemic* (mentioned 3 times in the corpus), as seen in example 10, and mentions to the *rife* and *wide use* of these drugs by those in the fashion industry.

[10] *She says there is "an Ozempic pandemic in the fashion* ***industry****"* (*The Times*, 03/10/2024)

References to weight control and the value of a thin body in fashion industry and media also predominate, with the fashion industry referred to as being *fatphobic,* despite broader societal changes towards body inclusivity and positive representation, as seen in example 11.

[11] *"While the rise of body inclusivity in recent years has brought some balance, skinniness never fully went out of style in the fashion* ***industry****"* (*The Daily Mail*, 14/10/2023)

In this context, the framing of health behaviours is not merely a matter of nutrition or access but becomes entangled with aesthetic norms and expectations shaping how bodies are evaluated.

4.4. GLP-1 users: gender and body

The expectations shaping how bodies are evaluated are notably gendered, with a predominance of reporting targeting and representing women (see Table 3, *women* and *man* with 6,572 and 3,570 occurrences respectively). An inspection of collocates of *man* Vs *woman* indicates that the representation of *man* in this corpus is less varied than *woman*, with only two adjectives used in reference to this group across the corpus: *overweight* and *likely*, and typically in cases where they are being aligned/compared with women, as illustrated in example 12.

[12] *It makes sense to alter the dimensions of what is a training tool as 69 per cent of UK* ***men*** *and 59 per cent of* ***women*** *are overweight and of those 26 per cent are obese.* (*The Daily Telegraph*, 16/11/2023)

The lemma *woman*, which is more recurrent in the corpus (with a frequency of 6,572 compared to 3,522 for *man*), is used with a wider range of terms including *obese, young, thin, desperate, susceptible,* as well as *able, brilliant, successful* and *pregnant,* which implies that female readers are expected to be most interested in the topic. This reinforces a previous finding by Basch et al. who suggested that "strategies for weight loss have long been included in mainstream media and have been particularly aimed at women" (Basch et al., 2023: 1). The adjective *young* (with a frequency of 2,843) is also hegemonically marked for gender, with its use being specifically aligned with females, with *young* used as an adjectival collocate for the gendered terms *sister, girl* and *woman* 457 times in total (34, 123, and 300 times respectively), and *man* and *son* 107 times in total (86 and 21 times respectively).

There are only two instances of *fat* + *boy* in the corpus, both of which refer specifically to the DJ Fat Boy Slim, so are not of relevance here. The use of the collocational pattern *fat* + *girl* is, by contrast, revealing, as it indicates a particular framing of individuals based specifically on their age and gender (with *girl* referring to youth), as seen below.

[13] *The actress recalled being told she would be cast in* ***'fat girl'*** *roles while she was a student.* (*The Daily Mail*, 05/03/2024)

Example 13 presupposes a particular social and ideological stereotype whereby *fat girls* belong to a specific category of female. The expression *fat girl roles* point to a hegemonic norm in language use, creating an identity which is evaluative and stigmatising, reducing the actress to physical appearance and gender rather than focusing on professional skill. Of the 35 instances of the *fat* + *girl* within the corpus, 14 uses were directly linked to the entertainment industry (particularly referencing the actress Rebel Wilson). Other uses include, for example:

[14] *Her own mother had thought her 'well upholstered' and likened her to a sofa, declaring 'no apple pie for you tonight' on the grounds that a* ***fat girl*** *would never find a husband.* (*The Daily Mail*, 30/10/2024)

References to *entertainment industry* (as well as *film, music* and *fashion industry*) frequently included mentions of individual celebrities (predominantly female – with the lemma *celebrity* occurring 2,636 times). In addition to being referenced individually (example 16), celebrities were

Table 6
Word Sketch results, indicating the most common collocates of *industry* in the GLP-1 corpus.

Pattern	Collocate	Freq	Score	Pattern	Collocate	Freq	Score
modifiers of industry	music	63	10.25	*verbs with industry as object*	model	11	9.59
	fashion	81	10.19		diet	9	9.25
	pharmaceutical	79	10.13		revolutionise	7	9.09
	food	100	9.56		burgeon	6	9.08
	entertainment	25	9.22		quit	10	8.92
	diet	46	9.17		transform	5	7.97
	hospitality	19	8.86		dominate	4	7.94
	restaurant	21	8.85		build	7	7.72
	tobacco	14	8.36		concern	4	7.67
	film	16	8.23		estimate	4	7.67
	wellness	14	8.2		expand	4	7.54
	supplement	12	8.11		protect	4	7.25
nouns modified by industry	insider	16	10.19	*verbs with industry as subject*	face	11	8.11
	Oliver	7	8.97		fund	5	7.76
	intent	5	8.82		flog	4	7.7
	analyst	11	8.65		grow	8	7.63
	WeightWatchers	5	8.62		require	5	7.5
	leader	12	8.5		create	5	7.44
	Jasper	4	8.46		enter	4	7.35
	Christina	4	8.3		see	9	7.27
	survey	5	7.91		need	8	7
	boss	5	7.64		spend	4	6.8
	group	14	7.59		try	5	6.74
	expert	10	7.54		suffer	4	6.55

also recurrently referred to as collective (*celebrities*) (example 15). Particularly those with *clinical obesity* are also criticised for using their celebrity status to gain preferential access to GLP-1 medications, which compromises equitable access and availability for individuals with type 2 diabetes.

[15] *As for **celebrities** who use the once-weekly injection for weight loss, despite not having diabetes or clinical obesity, Hans instead called attention to the "many terrible problems" that those with diabetes have struggled with by not having drugs like Ozempic readily available.* (*The Independent,* 17/06/2023)

Celebrities (particularly female celebrities) are also held responsible for the broader societal shifts in the positioning of GLP-1 and body inclusivity and positive representation (building on example 11). In example 16 we see Oprah being criticised for changing her body image and succumbing to the social *pressures* around body size by taking *Ozempic*; shifting the *ground rules*.

[16] *When Oprah Winfrey, whose millions of fans loved the fact she did not conform to the pressure to be thin, opened up and said she had started taking Ozempic, the ground rules shifted.* (*The Daily Mail*, 16/05/2024)

The Word Sketch Difference results of *man* vs. *woman* also indicate a relatively higher use of the word *image*, itself, with *woman* (15 times). These instances, again, typically criticise the use of images of women with *unattainable* (2 times) bodies in the media and on online platforms including social media, as seen in example 17, which criticises the use of images of *ageless, weightless women* in posts about 'weight loss injections' on Instagram (the quotation featured in this example is used in six texts in the corpus).

[17] *Jamil wrote "Where again the **images** of ageless, weightless women are used as a tool of inspiration".* (*The Independent*, 20/03/2025)

There are also six instances of *fat influencers*, social media stars who take pride in their size, as seen in examples 18 and 19 below. Rather than presenting the notion of a *fat girl* in a negative light, these women embrace their size and use social media to reinforce their pride and positivity towards their size, so use this expression as a vehicle for empowerment (example 18). Although the more negative impact of social media and representations of body size are also noted in example 19.

[18] *I want to show **fat girls** that we can eat what we like and embrace our bodies.* (*The Sun*, 30/05/2024)

[19] *There's been a recent rise on TikTok of young **fat girls** doing videos crying about how much they hate their life, alongside a very scary rise of pro-anorexia accounts, girls obsessed with being as thin as possible.* (*The Guardian*, 17/03/2025)

5. Concluding discussion

This study shows how corpus-based methods can provide insights into news media reporting of health matters by examining trends in coverage, which may reflect changes in societal understandings and concerns. This diachronic study has revealed important shifts in reporting trends around GLP-1s in mainstream national UK newspapers. Although GLP-1s are essential for type 2 diabetes management, since their approval for weight management media coverage has shown a growing linkage with weight loss, lifestyle (particularly in relation to nutrition), body image and the fashion industry while declining their association with type 2 diabetes. In parallel to the increasing identification of GLP-1s as an effective means for weight management, reporting trends also show an inflation in medicalised portrayals of obesity.

Adopting a medical discourse can reduce stigma by decoupling obesity from purely lifestyle choices and highlighting the severity of associated health-related issues. However, the study also shows that these discussions do not include references to the role of societal stressors and inequalities, or social determinants of health (Marmot, 2005; WHO, 2024b: 110), and overlook societal or community-based approaches to health, turning health conditions into individual problems to be managed by an individual-based course of action exclusively (e.g. changing lifestyles, acquiring specific medications). This individual centrism implicitly turns individuals' failure to effectively manage health into self-negligence. For instance, GLP-1s are repeatedly presented as a welcome means to address obesity-related health issues and oxygenate an overstretched NHS (Section 4.3). While this argument refers to the economic burden associated to obesity-related health conditions, it can also contribute to blame people with obesity for the lack of resources faced by the healthcare system (see Brookes, 2022 on this matter). Instead, references to promotion of healthy lifestyles and affordable healthy food choices were not identified in these contexts.

The primacy of individual centrism also emerged in discussions around (ultra)processed food (section 3.3). Concerns about (ultra)processed food and its negative impact on population health are recurrent, and the food industry is identified as the primary responsible actor for the national and global increase in obesity. Discussions include explicit blame attributions to the industry for purposefully producing unhealthy addictive food, thus implicitly casting a negative light on the sector for prioritising profit over population health. However, except for low-income families, who are acknowledged to have limited power of choice, consumption of (ultra)processed food is mainly depicted as a matter of free will. Indirectly, the harm associated with (ultra)processed food is identified with an individual decision, which echoes traditional identifications of obesity (and type 2 diabetes) with 'lifestyle diseases' and moral falling (e.g. Browne et al., 2013; Hoverd and Sibley, 2007; Townend, 2009).

Explicit discussions about the food insecurity crisis in the UK context (Francis-Devine et al., 2024; Francis-Devine, 2024) and the impact of cost of living in nutrition and lifestyle choices are largely omitted in the corpus. While the corpus includes appellations to corporate responsibility in portrayals of the food industry as the promoter of unhealthy diets, which may contribute to promote societal awareness around the influence of the sector in population health, this contrast with an overall omission of explicit references to food industry regulation. Only 1.8% of references to *regulation* in the corpus (9 out of 498) explicitly discuss the need to regulate the food industry to improve population health (2 and 7 times in the pre-licensing and post-licensing sub-corpora respectively). Targets of regulation include the energy, financial and housing sectors, the tobacco industry (e-cigarettes and vaping) or environmental policies. Discussions around regulation in relation to GLP-1s (in the post-licensing corpus) mainly target the pharmaceutical industry, especially in relation to regulation of the GLP-1s as weight loss medication and the access to non-prescription medications to avoid overconsumption.

Finally, in media reporting around GLP-1 wt loss medication, the individual-centred discourse further expands to the realm of the body (section 4.4). Discussions about GLP-1s in the corpus are hegemonically marked for gender, with its use being specifically aligned with (young) females. The tacit assumption of women as primary users contrasts with prevalence rates of obesity/overweight in the UK, with both genders showing similar values (prevalence of obesity is reported to be 29.6% and 28.1% among women and men respectively, whereas prevalence of overweight is reported to be 32.5% and 43.3% among women and men) (Stiebahl, 2025: 7). The fashion industry and media are represented as promoting specific discourses of the body, specifically the glorification of (female) skinniness, resonating with traditional ideologies of hegemonic femininity in Western societies (Bordo, 1993). The news media discourse also gives voice to countering positions denouncing the body ideology of slenderness, reclaiming body positivity and condemning the adoption of GLP-1s among (female) celebrities and public figures. The intertwinement of these opposing stances, however, reveals the

relationship women are expected to have with their bodies is regulated by a double bind. Understood as placing women in a doubly difficult position (Mullany, 2007: 32), the metaphor captures the irreconcilable social canonisation of slenderness as ideal of beauty with the social blaming of those celebrities that adopted the GLP-1s as means to achieve it.

This study has shown how news media discussions around the use of GLP-1s to manage obesity/overweight are shaped by a medical framing, neoliberal discourses of free will and individual centrism that emphasise individual responsibility, ingrained gendered body ideologies, and the value of minimal intervention of liberal economy. The omission to social-based inequalities is consistent with findings reported in Vilar-Lluch and Knight, (n.d.) around the press coverage of type 1 and type 2 diabetes in the UK context (see also Gollust and Lantz, 2009), suggesting that individual-centred discourses around health and well-being are common in news media.

Individual centrism and overlook of social determinants of health can lead news media coverage of health matters to unwillingly promote moralising stances when positively valued behaviours are not adopted (e.g. adoption of healthy lifestyles, avoiding unhealthy foods). Moralising discourses in health communication should be avoided. Studies on public health guidance have shown moralising discourses promote othering of non-compliant individuals (McClaughlin et al., 2023), in this case individuals with obesity/overweight, with the potential to exacerbate social stigma. In GLP-1s reporting, the moralising stance expands both to individuals with obesity/overweight and to users. GLP-1s are paradoxically represented as effective means for weight loss, benefiting the user and the healthcare system, implicitly a means to achieve the ideal of slenderness promoted by the fashion industry, while those who consume it, specifically female celebrities, are put in public scrutiny.

CRediT authorship contribution statement

Dawn Knight: Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Sara Vilar-Lluch:** Writing – review & editing, Writing – original draft, Visualization, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix 1. GLP-1 corpus: token distribution across newspapers

Newspapers	GLP-1 corpus - Token distribution	Pre-licensing (2006–2020) - Token coverage	Post-licensing (2021–2025) - Token coverage
The Daily Mail	3986,048	84,294	3901,754
The Times	1430,243	38,571	1391,672
The Daily Telegraph	1148,155	7502	1140,653
The Independent	1007,461	14,624	992,837
The Guardian	721,371	6566	714,805
The Sun	385,681	32,194	353,487
The Mirror	368,579	12,020	356,559
Metro	10,698	121	10,577

References

Atanasova, D., Koteyko, N., 2017. Metaphors in guardian online and mail online opinion-page content on climate change: war, religion, and politics. Environ. Commun. 11 (4), 452–469.

Bailey, J., McCrossin, T., 2016. Communicating diabetes in Australian print media: a change in language use between 2010 and 2014? Aust. N Z J. Public Health 40 (5), 493–497.

Baker, P., Brookes, G., Atanasova, D., Flint, S., 2020. Changing frames of obesity in the UK press 2008–2017. Soc. Sci. Med. 264, 113403.

Baker, P., 2006. Using Corpora in Discourse Analysis. Continuum.

Balfour, J., 2023. Representing Schizophrenia in the Media: A Corpus-Based Approach to UK Press Coverage. Routledge.

Basch, C.H., Narayanan, S., Tang, H., Fera, J., Basch, C.E., 2023. Descriptive analysis of TikTok videos posted under the hashtag #ozempic. J. Med. Surg. Public Health 1, 100013.

Beasley, D., 2024. Weight-loss Drug Forecasts Jump to $150 Billion as Supply Grows. Available at: https://www.reuters.com/business/healthcare-pharmaceuticals/weight-loss-drug-forecasts-jump-150-billion-supply-grows-2024-05-28/.

Bednarek, M., Carr, G., 2020. Diabetes coverage in Australian newspapers (2013-2017): a computer-based linguistic analysis. Health Promot. J. Aust. 31 (3), 497–503.

Bednarek, M., 2020. Invisible or high-risk: computer-assisted discourse analysis of references to Aboriginal and Torres Strait Islander people (s) and issues in a newspaper corpus about diabetes. PloS One 15 (6), e0234486.

BHF (British Heart Foundation), 2025. Diabetes – Causes, Symptoms & Treatments. Available at: https://www.bhf.org.uk/informationsupport/risk-factors/diabetes.

Blackwood, L., Gavin, J., Arnott, E., Barnett, J., Dack, C., Johansen, J., 2023. #DiabetesOnAPlate: the everyday deployment and contestation of diabetes stigma in an online setting. Crit. Public Health 33 (2), 160–173.

Bordo, S., 1993. Unbearable weight. Feminism, Western Culture and the Body. University of California Press.

Brookes, G., 2018. Insulin restriction, medicalisation and the internet: a corpus linguistic study of the discourse of diabulimia in online support groups. Commun. Med. 15 (1), 14–27.

Brookes, G., 2022. Lose weight, save the NHS": discourses of obesity in press coverage of COVID-19. Crit. Discourse Stud. 19 (6), 629–647.

Brookes, G., Baker, P., 2021. Obesity in the News: Language and Representation in the Press. Cambridge University Press.

Brookes, G., Baker, P., 2022. Fear and responsibility. Discourses of obesity and risk in the UK press. J. Risk Res. 25 (3), 363–378.

Browne, J.L., Ventura, A., Mosely, K., Speight, J., 2013. I call it the blame and shame disease': a qualitative study about perceptions of social stigma surrounding type 2 diabetes. BMJ Open 3 (11), e003384.

Browne, J.L., Ventura, A., Mosely, K., Speight, J., 2014. 'I'm not a druggie, I'm just a diabetic': a qualitative study of stigma from the perspective of adults with type 1 diabetes. BMJ Open 4 (7), e005625.

Centre for Drug Evaluation and Research (CDER) (n.d.) DER deputy division director summary review NDA 215256 Wegovy (Semaglutide) injection, for subcutaneous use. Food Drug Administration. Reference ID: 4806089. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/nda/2021/215256Orig1s000SumR.pdf.

Collins, L.C., Baker, P., Brookes, G., 2024. Representations of obesity in Australian and UK news coverage: a diachronic comparison. Appl. Corpus Linguist. 4 (2), 100092.

Demjén, Z., Brezina, V., Coltman-Patel, T., Dance, W., Gleave, R., Hardaker, C., Semino, E., 2025. 'I am still unsure…' – Spontaneous expressions of vaccine indecision on Mumsnet. Appl. Corpus Linguist. 5, 100122.

Diabetes Australia, 2021. Our Language Matters. Available at: https://www.diabetesaustralia.com.au/wp-content/uploads/Language-Matters-2021-Diabetes-Australia-Position-Statement-1.pdf.

Diabetes UK. (n.d). *What is diabetes?* Available at: https://www.diabetes.org.uk/about-diabetes?gad_campaignid=15219795550&gad_source=1.

Diaz, B.A., 2022. Finding social (mis)alignment in older adult and opioid health policy implementation with corpus-assisted discourse analysis. Appl. Corpus Linguist. 2, 100020.

Dickinson, R., 2008. Studying the sociology of journalists: the journalistic field and the news world. Sociol. Compass. 2, 1–17.

Eli Lilly, 2006. BYETTA(R) (exenatide) Approved for Treatment of Type 2 Diabetes By European Commission [Press release]. https://investor.lilly.com/static-files/6fb36598-bb6b-44c2-877f-94ec4862d2af#:~:text=The%20approval%20decision%20follows%20a%20positive%20opinion%20adopted,Amylin%20anticipate%20launching%20exenatide%20in%20Europe%20in%202007.

Erman, M., 2023. Focus: Novo Nordisk Rivals See Room to Compete in $100 Billion Weight-Loss Drug Market. Available at: https://www.reuters.com/business/healthcare-pharmaceuticals/novo-nordisk-rivals-see-room-compete-100-bln-weight-loss-drug-market-2023-05-04/.
Fairclough, N., 1995. Critical Discourse Analysis. Longman.
Fairclough, N., 2003. Analysing Discourse: Textual Analysis for Social Research. Routledge.
Francis-Devine, B., Harari, D., Keep, M., Bolton, P., Barton, C., Harker, R., Cromarty, H., 2024. Rising Cost of Living in the UK. Research Briefing. House of Commons Library. Available at: https://commonslibrary.parliament.uk/research-briefings/cbp-9428/#:~:text=Inflationary%20pressures%20from%20food%20and%20energy%20easing&text=UK%20food%20and%20non%2Dalcoholic,in%20food%20prices%20since%201977.
Francis-Devine, B., 2024. Who is Experiencing Food Insecurity in the UK? House of Commons Library. Available at: https://commonslibrary.parliament.uk/who-is-experiencing-food-insecurity-in-the-uk/.
Galmiche, M., Déchelotte, P., Lambert, G., Tavolacci, M.P., 2019. Prevalence of eating disorders over the 2000-2018 period: a systematic literature review. Am. J. Clin. Nutr. 109 (5), 1402–1413.
Gollust, S.E., Lantz, P.M., 2009. Communicating population health: print news media coverage of type 2 diabetes. Soc. Sci. Med. 69 (7), 1091–1098.
Himmelstein, M.S., Puhl, R.M., 2021. At multiple fronts: diabetes stigma and weight stigma in adults with type 2 diabetes. Diabet. Med. 38 (1), e14387.
Hoverd, W.J., Sibley, C.G., 2007. Immoral bodies: the implicit association between moral discourse and the body. J. Sci. Study Relig. 46 (3), 391–403.
International Diabetes Federation (IDF), 2014. "Language Philosophy. Technical Document". International Diabetes Federation, Brussels. Available at: https://old.diabetesmadrid.org/wp-content/uploads/2015/02/IDF-Language-philosophy-2.pdf.
Jones, C., Oakey, D., O'Halloran, K.L., 2023. I will say the picture of the background is not related to the words": using corpus linguistics and focus groups to reveal how speakers of English as an additional language perceive the effectiveness of the phraseology and imagery in UK public health tweets during COVID-19. Appl. Corpus Linguist. 3 (2), 100053.
Jones, L., Collins, L., 2020. PrEP in the press: a corpus-assisted discourse analysis of how users of HIV-prevention treatment are represented in British newspapers. J. Lang. Sex. 9 (2), 202–225.
Kilgarriff, A., Rychlý, P., Smrž, P., Tugwell, D., 2004. The Sketch Engine. In: Proceedings of the 11th EURALEX International Congress, pp. 105–116.
Kilgarriff, A., Herman, O., Bušta, J., Rychlý, P., Jakubíček, M., 2015. DIACRAN: a framework for diachronic analysis (presentation). Corpus Linguistics (CL2015), United Kingdom. July.
Liu, N.F., Brown, A.S., Folias, A.E., Younge, M.F., Guzman, S.J., Close, K.L., Wood, R., 2017. Stigma in people with type 1 or type 2 diabetes. Clin. Diabetes 35 (1), 27–34.
Marchi, A., 2022. Corpus linguistics in the study of news media. In: O'Keeffe, A., McCarthy, M. (Eds.), The Routledge Handbook of Corpus Linguistics, 2ndEdition. Routledge, pp. 576–588.
Marmot, M., 2005. Social determinants of health inequalities. Lancet 365 (9464), 1099–1104.
McClaughlin, E., Vilar-Lluch, S., Parnell, R., Knight, D., Nichele, E., Adolphs, S., Clos, J., Schiazza, G., 2023. The reception of public health messages during the COVID-19 pandemic. Appl. Corpus Linguist. 3, 100037.
MHRA, 2023. Medicines and Healthcare products Regulatory Agency. Available at: https://www.gov.uk/government/news/mhra-authorises-diabetes-drug-Mounjaro-Tirzepatide-for-weight-management-and-weight-loss#:~:text=The%20Medicines%20and%20Healthcare%20products,adults%20aged%2018%20and%20over.
Mullany, L., 2007. Gendered Discourse in the Professional Workplace. Palgrave Macmillan, Basingstoke.
NCD-RisC, 2024. Worldwide trends in diabetes prevalence and treatment from 1990 to 2022: a pooled analysis of 1108 population-representative studies with 141 million participants. Lancet 404 (10467), 2077–2093.
NHS England, 2018. Language Matters: Language and Diabetes. Available at: https://www.england.nhs.uk/publication/language-matters-language-and-diabetes/.
Nutbeam, D., Muscat, D.M., 2021. Health promotion glossary 2021. Health Promot. Int. 36 (6), 1578–1598.
Osborne, R.H., Batterham, R.W., Elsworth, G.R., Hawkins, M., Buchbinder, R., 2013. The grounded psychometric development and initial validation of the Health Literacy Questionnaire (HLQ). BMC Public Health 13, 658.
Pearson, S.D., Whaley, C.M., Emond, S.K., 2025. Affordable access to GLP-1 obesity medications: strategies to guide market action and policy solutions in the US. J. Comp. Eff. Res. 14 (9), e250083.
Pelizzari, N., 2025. Changing roles of patient information leaflets in the UK: a corpus-assisted discourse analysis. Appl. Corpus Linguist. 5, 100129.
Pi-Sunyer, X., Astrup, A., Fujioka, K., Greenway, F., Halpern, A., Krempf, M., Lau, D.C. W., le Roux, C., Ortiz, R.V., Jensen, C.B., Wilding, J.P., 2015. A randomized, controlled trial of 3.0 mg of Liraglutide in weight management. N. Engl. J. Med. 373 (1), 11–22.
Price, H., 2022. The Language of Mental illness: Corpus linguistics and the Construction of Mental Illness in the Press. Cambridge University Press.
Rychlý, P., 2008. A Lexicographer-Friendly Association Score. December. RASLAN, pp. 6–9. Available at: https://nlp.fi.muni.cz/raslan/2008/raslan08.pdf#page=14.
Roglic, G., 2016. WHO Global report on diabetes: a summary. Int. J. Noncommunicable Dis. 1 (1), 3–8.
Rowlands, G., 2014. Health literacy: ways to maximise the impact and effectiveness of vaccination information. Hum. Vaccin. Immunother. 10 (7), 2130–2135.
Santyarini, R., Fajri, M.S.A., 2024. The portrayal of diabetes in the Indonesian online press: a corpus-based discourse study. Cogent. Arts Humanit. 11 (1), 2346374.
Seale, C., 2003. Media and Health. Sage.
Somani, S., Jain, S.S., Sarraju, A., Sandhu, A.T., Hernandez-Boussard, T., Rodriguez, F., 2024. Using large language models to assess public perceptions around glucagon-like peptide-1 receptor agonists on social media. Commun. Med. 4 (1), 137.
Speight, J., Skinner, T.C., Dunning, T., Black, T., Kilov, G., Lee, C., Scibilia, R., Johnson, G., 2021. Our language matters: improving communication with and about people with diabetes. A position statement by Diabetes Australia. Diabetes Res. Clin. Pr. 173, 108655.
Stiebahl, S., 2025. Obesity Statistics. House of Commons Library. Available at: https://commonslibrary.parliament.uk/research-briefings/sn03336/.
Su, N., Li, Y., Xu, T., Li, L., Kwong, J.S.W., Du, H., Ren, K., Li, Q., Li, J., Sun, X., Li, S., Tian, H., 2016. Exenatide in obese or overweight patients without diabetes: a systematic review and meta-analyses of randomized controlled trials. Int. J. Cardiol. 219, 293–300.
Teixeira, M.E., Budd, G.M., 2010. Obesity stigma: a newly recognized barrier to comprehensive and effective type 2 diabetes management. J. Am. Acad Nurse Pr. 22 (10), 527–533.
Tobitt, C., 2025. Newspaper ABCs: Daily mail Avoids Month-On-Month Print Drop in December. Press Gazette.
Townend, L., 2009. The moralizing of obesity: a new name for an old sin? Crit. Soc. Policy 29 (2), 171–190.
Tuchman, G., 1978. Making news: a Study in the Construction of Reality. Free Press.
Vilar-Lluch,S.,Knight,D.,n.d..Type 1 and Type 2 diabetes in the UK press: a diachronic corpus-based analysis.
Vilar-Lluch, D., McClaughlin, E., Adolphs, S., Knight, D., Nichele, E., 2025. The effects of modal value and imperative mood on self-predicted compliance to health guidance: the case of COVID-19. Text & Talk 45 (4), 527–557.
Vincent, B., Power, K., Crosthwaite, P., Gardner, S., 2023. Directives in COVID-19 government guidance: an international comparison. Appl. Corpus Linguist. 3, 100063.
Westbury, S., Oyebode, O., Van Rens, T., Barber, T.M., 2023. Obesity stigma: causes, consequences, and potential solutions. Curr. Obes. Rep. 12 (1), 10–23.
WHO (World Health Organisation), 2016. Global Report On Diabetes. World Health Organisation, Geneva.
WHO (World Health Organisation), 2021. Nutrition, Overweight and Obesity. World Health Organization, Geneva. Available at: https://iris.who.int/bitstream/handle/10665/341982/WHO-EURO-2021-2574-42330-58595-eng.pdf.
WHO (World Health Organisation), 2024a. Obesity: Health Consequences of Being Overweight. Available at: https://www.who.int/news-room/questions-and-answers/item/obesity-health-consequences-of-being-overweight.
World Health Organization (WHO), 2024b. Health Inequality Monitoring: Harnessing Data to Advance Health Equity. World Health Organization, Geneva. https://iris.who.int/handle/10665/379703.
WHO (World Health Organisation), 2025. "Obesity and Overweight". Available at: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight.
YouGov, 2025. *The Most Popular Newspapers in the UK: YouGov Ratings*. Available at: https://yougov.co.uk/ratings/entertainment/popularity/newspaper/all.
Yu, Y., Brookes, G., 2024. Covid-19 news in China and the UK: a corpus-based Critical Discourse Analysis of China Daily and the Times. Corpora 19 (3), 285–315.
Zhang, F., Tong, Y., Su, N., Li, Y., Tang, L., Huang, L., Tong, N., 2015. Weight loss effect of glucagon-like peptide-1 mimetics on obese/overweight adults without diabetes: a systematic review and meta-analysis of randomized controlled trials. J. Diabetes 7 (3), 329–339.