POSITION STATEMENT

SEPTEMBER 2026

World Cancer Research Fund International

GLP-1-related weight-loss medications and cancer

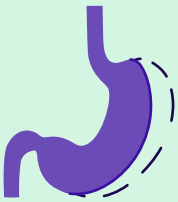
The rise of GLP-1-related medications

Originally developed to treat type 2 diabetes, glucagon-like peptide-1 (GLP-1)-related medications are increasingly being used as one of several approaches to weight loss, including lifestyle interventions and bariatric surgery, in people living with overweight or obesity (**Figure 1**). With excess body weight increasing the risk of multiple cancers, questions are emerging about what the growing use of GLP-1-related medications for weight management could mean for cancer prevention and survivorship. As a leading authority on the links between diet, weight, physical activity and cancer, World Cancer Research Fund (WCRF) International has an important role in interpreting this rapidly evolving evidence and identifying critical research gaps.

Calorie restriction

- ✔ Low-cost, effective
- ✔ Accessible
- ✘ Difficult to maintain

Bariatric surgery



- ✔ Effective
- ✘ Invasive
- ✘ Post-op complications
- ✘ Expensive
- ✘ Few qualify

GLP-1-related medications

- ✔ Effective for diabetes and weight loss
- ✘ Gastrointestinal side effects
- ✘ Cost and access barriers
- ✘ Long-term treatment often needed

GLP-1-related medications and lifestyle

- ✔ Better fitness and body composition
- ✔ Protein and exercise may preserve lean mass
- ✘ Sustained lifestyle adherence
- ✘ Greater time and support needs

Figure 1: Current weight loss approaches

Adapted from an unpublished figure provided by Professor Stephen Hursting (personal communication, 2026), with permission.

How do GLP-1-related medications work?

GLP-1-related medications mimic or enhance the effects of GLP-1, a hormone released by the gut that helps regulate blood glucose and appetite. They can increase feelings of fullness, reduce food intake and slow digestion, supporting blood glucose control and weight loss. Some medications act on the GLP-1 receptor alone, for example semaglutide, while others target additional pathways.For example, tirzepatide acts on both GLP-1 and glucose-dependent insulinotropic polypeptide (GIP) receptors.

Obesity increases the risk of cancer

According to World Cancer Research Fund International and the International Agency for Research on Cancer (IARC), living with overweight or obesity increases the risk of developing at least 13 types of cancer, including colorectal, postmenopausal breast, endometrial, ovarian and pancreatic cancers (**Figure 2**). Among people living with and beyond cancer, obesity is also associated with poorer quality of life and, for some cancers, a higher risk of recurrence or progression, poorer prognosis and second primary cancers. Maintaining a healthy weight is therefore important for cancer prevention and is also recommended for people living with and beyond cancer.

However, evidence linking body weight with outcomes after a cancer diagnosis varies by cancer type, and evidence that intentional weight loss improves recurrence or survival remains limited.

Healthy eating and physical activity are important for preventing excess weight gain and supporting overall health, but achieving and maintaining weight loss can be challenging. GLP-1-related medications may provide an additional clinical option for obesity management and may produce substantial weight loss, in many cases greater than that typically achieved through lifestyle interventions alone, which is sustained while users remain on the medication.

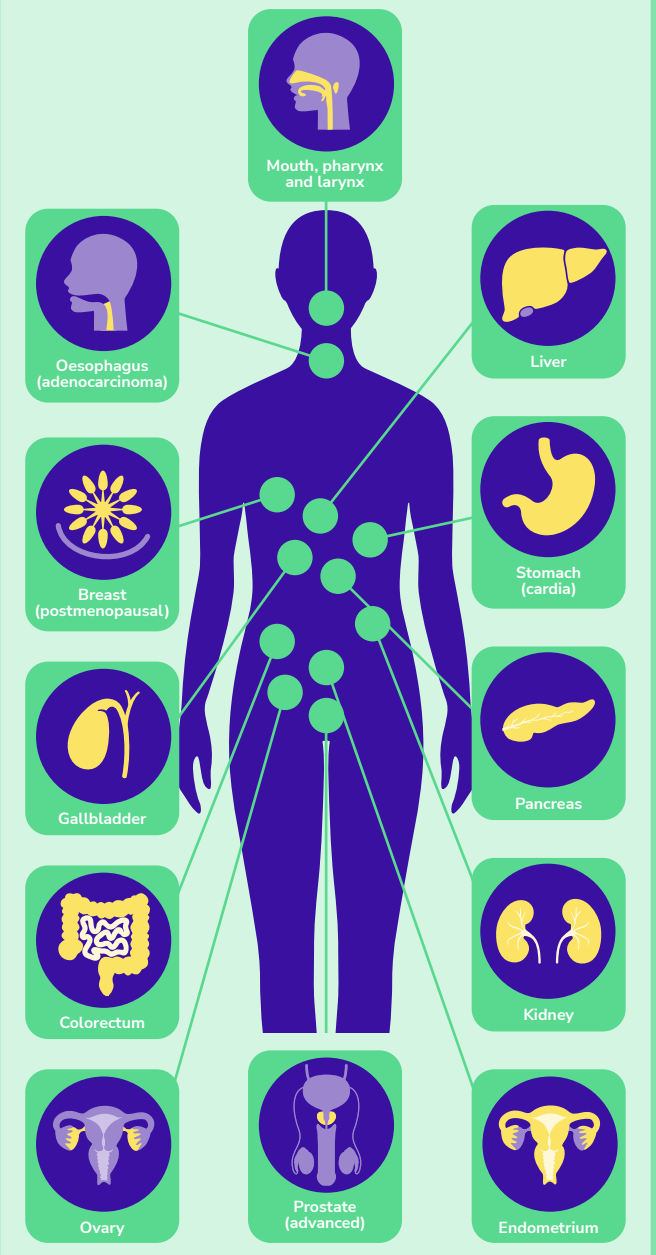


Figure 2: WCRF/AICR evidence linking obesity to several cancers

The 2016 IARC report[1,2] reviewed evidence for 3 additional cancers and concluded that obesity is also a cause of thyroid cancer, multiple myeloma and meningioma; a recent review by Watts et al. (2026)[3,4] proposed there are at least 19 obesity-related cancers.

GLP-1-related medications and cancer: the current evidence

GLP-1-related medications and cancer risk

Current evidence on GLP-1-related medications and cancer risk is promising but inconclusive. Several observational studies, largely conducted among people with obesity and/or type 2 diabetes, have linked their use with a lower incidence of overall and some obesity-related cancers, such as colorectal and endometrial cancers.[5–8] However, findings vary by study type, population, and cancer type, and residual confounding and other biases cannot be excluded. Randomised trials have not demonstrated a reduction in overall cancer incidence or established effects on individual cancer types, although most were not designed or followed for long enough to assess cancer outcomes.[9,10] Some GLP-1-related medications carry warnings about medullary thyroid carcinoma, based mainly on findings from animal studies. Evidence from human trials has not established a clear effect on thyroid cancer risk, although uncertainty remains because cases are rare and follow-up is limited.[9,10]

GLP-1-related medications and cancer survivorship

Evidence on GLP-1-related medications in people living with and beyond cancer remains limited and largely observational. Studies in people with cancers including breast, colorectal, and liver have linked their use with improved survival and, in some cases, lower risks of recurrence.[11–16] However, findings have not been consistent across all outcomes and residual confounding and other biases cannot be excluded. Observational evidence also suggests possible cardiovascular benefits during or after cancer treatment,[17,18] while limited evidence has raised potential concerns about treatment-related symptoms in some people with breast cancer.[19] Randomised trials have not yet established whether GLP-1-related medications improve cancer treatment outcomes, reduce recurrence or cancer-specific mortality, or improve quality of life and other survivorship outcomes.

Biological rationale and possible mechanisms

GLP-1-related medications can produce substantial weight loss, which may benefit both cancer prevention and survivorship. These medications may also influence cancer-related processes, including insulin sensitivity and chronic inflammation.[20] Laboratory and animal studies indicate there may also be direct effects on tumour growth, the formation of blood vessels that supply tumours, and immune responses involved in recognising and controlling cancer, suggesting that effects may not be explained by weight loss alone.[11,21–27] The importance of these pathways may differ between cancer types, so any effects of GLP-1-related medications could also vary. However, these findings are largely from animal studies, and it remains unclear whether these mechanisms translate into lower cancer risk or better outcomes after a cancer diagnosis in humans.

Current evidence provides promising but preliminary signals for both cancer risk and survivorship, while the proposed biological mechanisms require confirmation in humans.

The role of lifestyle alongside GLP-1-related medications

GLP-1-related medications should be considered as one part of a broader approach to weight and health, rather than a replacement for healthy lifestyle behaviours. Eating a healthy diet, being physically active and maintaining a healthy weight remain central to World Cancer Research Fund and American Institute for Cancer Research's Cancer Prevention Recommendations.[28] People living with and beyond cancer are also encouraged to follow these recommendations, if they can, while recognising that individual nutritional and weight-management needs may differ during and after treatment. As with weight loss more generally, use of GLP-1-related medications can involve some loss of lean mass as well as body fat. Good nutrition, including adequate protein, and regular physical activity, particularly resistance exercise, may help support nutritional health, physical function and the preservation of muscle.[29] Evidence also suggests that exercise may help sustain some of the weight and body-composition benefits achieved with GLP-1-related medications.[30] Further research is needed to establish the best ways to combine these medications with lifestyle and whether doing so influences long-term cancer risk and survival outcomes.

Limitations of the current evidence

Current evidence on GLP-1-related medications and cancer has several important limitations:

- **Most evidence is observational.** Differences between treatment groups, and variation in comparators, medication exposure and follow-up, may bias results or overestimate benefits. Observed associations therefore cannot establish cause and effect.
- **Follow-up is short.** Many cancers develop over years or decades, making longer-term studies essential.
- **Medication use and weight-loss responses vary.** Studies often lack detailed information on medication type, dose, duration and adherence, or resulting changes in weight and metabolic health. Responses also differ considerably, with some people losing little or no weight.
- **Important participant information may be missing.** Real-world datasets often lack detail on lifestyle, metabolic health, tumour characteristics, cancer stage, and treatment, limiting interpretation of cancer risk and outcome findings.
- **Randomised trials provide limited evidence on cancer.** Most were designed to study weight, diabetes, or cardiovascular outcomes rather than cancer. These have been too short, or included too few cancer events, to reliably assess cancer risk.

Current findings, whether suggesting benefit, harm or no effect, should be interpreted cautiously until longer-term studies specifically designed to investigate cancer outcomes are available.

Unanswered questions and future research

- **Are associations with cancer risk reduction explained by weight loss?**

It remains unclear to what extent observed associations with cancer are explained by weight loss and related improvements in metabolic health, or by effects independent of weight loss.

- **Do preclinical findings translate to humans, and through which mechanisms?**

Most preclinical evidence comes from animal models, and it is unclear whether these findings translate to human cancers. Studies using patient samples alongside clinical outcomes are needed to investigate potential effects on metabolism, inflammation, hormone signalling, immune function, and the tumour microenvironment.

- **What is the optimal study design to inform health policy?**

Further work is needed to determine whether large, long-term cancer-prevention trials, causal analyses of observational data, or stepwise biomarker and mechanistic studies can provide the most useful and feasible evidence for policy.

- **How should GLP-1-related medications be combined with lifestyle?**

Research is needed to determine how diet and physical activity can best support healthy weight, preserve muscle, and improve long-term health alongside GLP-1-related medications, and whether this influences cancer risk and outcomes.

- **What are the potential risks for people living with and beyond cancer?**

Loss of muscle and bone, reduced appetite and gastrointestinal side effects may compound challenges associated with cancer treatment. Effects on nutrition, physical function, treatment tolerance and quality of life require further study.

- **Do GLP-1-related medications affect outcomes and treatment in people living with and beyond cancer?**

Evidence on recurrence, progression, quality of life and survival remains limited. It is also unclear whether GLP-1-related medications affect the effectiveness or tolerability of cancer treatments, including cancer drugs, radiotherapy, and surgery. Longer-term prospective studies and randomised trials are needed.

- **Do effects differ between medications, people, and cancer types?**

Research should determine whether benefits and risks vary by medication, cancer type or individual characteristics, and identify those most likely to benefit if a role in cancer prevention or survivorship is confirmed.

- **What happens when people stop taking these medications?**

Weight regain is common after discontinuing GLP-1-related medications. Research is needed to determine how diet, physical activity and other approaches can best support healthy weight, body composition, and long-term health after treatment.

Longer-term, well-designed studies incorporating cancer and survivorship outcomes are needed to determine the benefits and risks of GLP-1-related medications and inform clinical practice and public health policy.

Research on the horizon

Early studies are beginning to examine GLP-1-related medications across cancer prevention, treatment, and survivorship. In breast cancer prevention, a small study of tirzepatide has reported preliminary changes in weight, body composition and breast cancer risk biomarkers, but did not assess whether cancer incidence was reduced.[31] In people with cancer, studies are now testing questions beyond weight loss alone. FITWISE is evaluating tirzepatide during adjuvant treatment for early-stage breast cancer, including measures of circulating tumour DNA and disease-free survival.[32] A phase 2 trial is also evaluating semaglutide alongside total neoadjuvant therapy for locally advanced rectal cancer, including treatment response, recurrence, survival and treatment-related adverse effects.[33] Other studies are examining colorectal cancer risk biomarkers,[34] pre-cancer and early-stage endometrial cancer,[35–37] the safety of GLP-1-related medications alongside treatment for gastrointestinal cancers,[38] and metabolic health, body composition and quality of life in people living with and beyond cancer.[39–41] These studies should help clarify whether GLP-1-related medications have roles in cancer prevention and survivorship beyond their established effects on weight and metabolic health.

Equity, access, and the wider prevention environment

Equitable access to GLP-1-related medications is an important consideration. Cost, availability, insurance coverage, and access to clinical care can influence who receives these medications. Evidence from the US shows disparities by race and ethnicity, socioeconomic circumstances and insurance coverage,[42] and emerging UK data indicate socioeconomic inequalities in private access.[43] At the same time, medications cannot address the wider social and environmental factors that influence diet, physical activity and body weight. GLP-1-related medications should therefore complement, rather than replace, population-level policies that create healthier environments and support cancer prevention.

Main conclusions

Excess body weight is an established cause of multiple cancers, and GLP-1-related medications can support substantial weight loss. However, their long-term effects on cancer risk and outcomes for people living with and beyond cancer remain uncertain. These medications should be considered as one potential clinical tool within a much broader approach to healthy weight and cancer prevention, not as a replacement for healthy eating, physical activity or population-level policies that support healthier environments. Current evidence does not support using GLP-1-related medications to prevent cancer or to improve cancer treatment outcomes, quality of life, recurrence, or survival. As their use increases, longer-term research will be essential to understand their potential benefits and risks in both cancer prevention and survivorship.

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About us

World Cancer Research Fund International is a leading authority on the links between diet, nutrition, weight, and physical activity and cancer. We are an international not-for-profit association that leads and unifies a network of cancer prevention charities, including the **American Institute for Cancer Research** (AICR), **World Cancer Research Fund** in the UK (WCRF) and **Wereld Kanker Onderzoek Fonds** in the Netherlands (WKOF). World Cancer Research Fund International is in official relations with the World Health Organization (WHO).

American Institute for Cancer Research | World Cancer Research Fund | Wereld Kanker Onderzoek Fonds

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For a full list of references with links, please visit **wcrf.org/glp1s-references**

Learn more about what we are doing on GLP-1s and cancer at **wcrf.org/glp1s**

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