

Perspectives

Obesity Control and Cancer Prevention in China: Insights from the Weight Management Year

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ABSTRACT

Obesity has emerged as a critical public health challenge worldwide and in China, substantially contributing to the burden of chronic diseases, including cancer. In response, China launched the “Weight Management Year” initiative in 2024, representing a strategic shift toward upstream interventions in chronic disease control. This perspective examines the essential role of obesity control in cancer prevention across the complete prevention continuum — primordial (zero-level), primary, secondary, and tertiary prevention. The initiative presents a unique opportunity to integrate weight management strategies into health promotion, early risk identification, screening programs, and post-diagnosis rehabilitation. It emphasizes incorporating obesity-related cancer prevention into routine healthcare through digital platforms, multidisciplinary collaboration, and population-wide education campaigns. However, significant challenges persist, including limited public awareness of obesity’s carcinogenic risks, insufficient integration between clinical and public health systems, and inadequate multi-sectoral cooperation. Moving forward, cancer prevention in China must transition from a reactive, screening-focused model to a proactive, life-course approach centered on behavioral and lifestyle interventions. Strengthening risk communication, institutionalizing weight management across all prevention levels, and fostering cross-sectoral collaboration are essential for building a sustainable, population-wide cancer prevention framework.

In recent years, obesity has emerged as an increasingly prominent global public health challenge. Currently, approximately one-third of the global population is overweight or obese. Since 1990, the global prevalence of obesity has increased by 155.1%

among men and 104.9% among women (1). Adult BMI and obesity in China increased significantly between 2004 and 2018, with obesity prevalence rising from approximately 3.1% to 8.1%. An estimated 85 million adults were obese in 2018 — roughly three times the number in 2004 (2). At the same time, the prevalence of overweight and obesity among children and adolescents is also rising rapidly (3). Obesity serves as a major driver of other chronic diseases such as hypertension, type 2 diabetes, and fatty liver disease, underscoring the broader significance of weight management in chronic disease prevention. Moreover, it has become a key factor affecting life expectancy and healthy life years. This trend poses a serious challenge to achieving national population health strategies, such as the Healthy China Initiative.

The continuous rise in global obesity prevalence has underscored its role as a major risk factor for cancer. Projections suggest that obesity may surpass smoking to become the leading preventable cause of cancer in the near future (4). In 2016, the International Agency for Research on Cancer (IARC) confirmed a causal relationship between excess body fat and at least 13 types of cancer, including endometrial cancer, esophageal adenocarcinoma, kidney cancer, liver cancer, gastric cardia cancer, and colorectal cancer. IARC has classified excess body fat as a Group 1 carcinogen (5). A meta-analysis covering more than ten countries worldwide indicated that for every 5 kg/m² increase in body mass index (BMI), the risk of developing certain cancers rises significantly. These include esophageal adenocarcinoma, thyroid cancer, colon cancer, and kidney cancer in men, and endometrial cancer, gallbladder cancer, esophageal adenocarcinoma, kidney cancer, and postmenopausal breast cancer in women (6). In China, the burden of obesity-related cancers is becoming increasingly severe. In 2021, approximately 48.47% of cancer cases were associated with obesity, with the incidence of these cancers increasing at an annual rate of 3.6% — substantially higher than that of non-obesity-related cancers (7). For example, obesity can increase the risk

of thyroid cancer and endometrial cancer through chronic inflammation and hormonal dysregulation (8). This trend not only intensifies the public health burden of preventable cancers but also poses a significant threat to healthy life expectancy across the population.

The Significance of Obesity Control for Cancer Prevention Under the “Weight Management Year” Initiative

In 2024, China’s National Health Commission launched the “Weight Management Year” initiative (9), a comprehensive three-year public health campaign that represents a fundamental shift in the country’s chronic disease prevention strategy. This initiative marks a transition from reactive, treatment-focused approaches toward proactive, upstream interventions that address root causes of disease. Weight management has thus evolved beyond individual health recommendations to become a cornerstone of national health policy. Pilot provinces have implemented digital monitoring platforms, while local governments have established collaborative networks linking schools, workplaces, and healthcare institutions. According to the *Notice on the Establishment and Management of Healthy Weight Management Clinics* issued by the National Health Commission and National Administration of Traditional Chinese Medicine (2025), healthy weight management clinics must be fully operational in all tertiary general hospitals, children’s hospitals, and traditional Chinese medicine hospitals by June 2025 (10). This systematic approach enables a paradigm shift from screening-based secondary prevention toward comprehensive, multi-sectoral primary prevention through institutionalized weight management frameworks. Cancer prevention efforts should capitalize on this opportunity by promoting integrated strategies that simultaneously target cancer and other metabolic diseases, enhance clinical-public health synergy, and foster interdepartmental collaboration on weight-related interventions. This transformation supports the evolution from passive disease detection to proactive prevention and control.

The “Weight Management Year” initiative employs a systematic, life-course approach characterized by population-wide, multi-setting interventions. These structural advantages position the initiative as an ideal platform for integration across all levels of cancer prevention, facilitating the strategic transition from a “detection-treatment” paradigm to a proactive

“identification-intervention-prevention” model.

Zero-Level Cancer Prevention: A Coordinated Pathway Centered on Weight Management

Zero-level prevention encompasses preemptive interventions implemented before disease onset, distinguishing itself from primary prevention by emphasizing environmental and behavioral risk factor control before these factors become established (11). Primary prevention, in contrast, focuses on managing existing risk factors. Within cancer prevention, weight management-centered coordinated pathways for zero-level prevention can be developed through three strategic approaches: 1) Establishing cancer prevention-friendly social health environments by incorporating “active and exercise-friendly cities” concepts and competitive mechanisms into urban culture, promoting weight management-supportive indoor environments, and advancing healthy kitchen initiatives; 2) Strengthening public understanding of the relationship between abnormal weight and cancer risk through dedicated “obesity and cancer” educational materials, integrating weight management into cancer screening promotion programs, and disseminating scientific evidence of obesity’s carcinogenic effects via multimedia platforms; 3) Coordinating resources across multiple sectors — education, sports, human resources, and medical insurance — to establish cross-system, multi-population, multi-channel collaborations that develop weight intervention guidelines for high-risk cancer populations and explore viable incentive models for healthy behaviors. The “Weight Management Year” initiative should therefore be leveraged as a crucial opportunity and institutional framework for advancing cancer prevention concepts. Through environmental optimization and multi-sectoral collaboration, a comprehensive, life-course cancer prevention ecosystem covering the entire population can be progressively established.

Primary Cancer Prevention: Risk Control Strategies Anchored in Weight Management

Primary prevention aims to reduce initial cancer risk by controlling carcinogenic factors and promoting healthier lifestyles. Intentional weight loss effectively lowers the risk of several cancer types (12–13), establishing obesity prevention and control as a

cornerstone intervention in primary cancer prevention. The systematic framework promoted by the “Weight Management Year” initiative enables coordinated pathways for primary cancer prevention through three strategic approaches: 1) Weight management should be integrated into primary cancer prevention risk assessment tools. This integration involves incorporating parameters such as BMI, waist circumference, and metabolic indicators to develop a comprehensive “metabolic–oncologic risk” assessment and intervention model suitable for health examination centers, wellness management institutions, and primary care settings; 2) Digital platforms and integrated clinical–public health service systems developed under the “Weight Management Year” initiative should target high-risk cancer populations with abnormal weight, metabolic disorders, or comorbid chronic diseases. Standardized intervention packages for abnormal weight should be implemented across health examination centers, wellness management institutions, and primary healthcare facilities; 3) Multiple disciplines, including nutrition, physical activity, psychology, and oncology, should collaborate to develop weight loss guidelines and intervention pathways for primary cancer prevention. Additionally, primary cancer prevention objectives should be embedded within the weight management framework of essential public health service programs. In China, schools serve as critical settings for obesity prevention. Multiple intervention strategies targeting children and adolescents have been implemented, including promoting healthy diets, increasing physical activity, and encouraging self-monitoring of obesity-related behaviors. Early-life obesity interventions provide significant protective effects against adult cancer risk (14). The “Weight Management Year” provides a crucial opportunity to establish a new primary cancer prevention model — one that uses weight management as the entry point and lifestyle intervention as the core strategy. This model can accelerate the transition from isolated screening-based approaches toward comprehensive, multi-sectoral, and system-level interventions.

Secondary Cancer Prevention: An Integrated Screening and Early Detection Framework Enhanced by Weight Management

Secondary prevention focuses on early cancer detection, diagnosis, and treatment — identifying

disease during latent or early stages to reduce progression and mortality. The “Weight Management Year” initiative offers systematic advantages in identifying high-risk populations, managing follow-up care, and integrating intervention resources, thereby strengthening secondary cancer prevention efforts: 1) Cancer screening and follow-up protocols for precancerous lesions should systematically incorporate weight intervention measures for individuals with obesity. For those who screen positive but remain undiagnosed — particularly individuals with precancerous conditions — structured weight control and metabolic regulation should be implemented using outpatient resources, intervention tools, and nutrition and exercise prescriptions promoted through the “Weight Management Year” initiative, with the objective of delaying or preventing disease progression; 2) Digital platforms should facilitate the establishment of an integrated “screening–management–feedback” follow-up system. In China, digital health platforms are increasingly integrated into cancer screening programs, with screening results incorporated into electronic health records to enable systematic follow-up of high-risk individuals. Internet-based tools, including mobile applications and WeChat reminders, support weight monitoring, lifestyle interventions, and re-examinations, thereby strengthening the integration of weight management into secondary cancer prevention. The “Weight Management Year” initiative should therefore serve as a critical support platform for optimizing secondary cancer prevention systems, promoting the development of an integrated model where cancer screening and weight management are unified and actionable post-screening interventions enable early cancer diagnosis and treatment.

Tertiary Prevention: Rehabilitation Management Pathways Based on Weight Management

Tertiary prevention focuses on improving quality of life after cancer diagnosis while reducing risks of recurrence, metastasis, and treatment-related complications. Obesity significantly correlates with elevated recurrence rates and compromised treatment responses across multiple cancer types, including prostate, colorectal, breast, and esophageal cancers (15–18). The comprehensive management strategies and multidisciplinary intervention frameworks established through the “Weight Management Year” initiative provide robust infrastructure for enhancing

tertiary cancer prevention. Key implementation pathways include: 1) Systematically integrating weight management protocols into cancer rehabilitation and surveillance programs — particularly for high-recurrence-risk cancers such as breast and colorectal malignancies — to optimize hormonal and metabolic profiles through targeted weight reduction, thereby diminishing recurrence probability; 2) Leveraging specialized weight management clinics and comprehensive nutrition–exercise–psychological support services to deliver personalized rehabilitation interventions for cancer patients, enhancing both quality of life and functional recovery outcomes. Currently, leading cancer institutions in China (including the National Cancer Center and select provincial cancer hospitals) have established dedicated weight management and rehabilitation clinics that provide integrated nutritional, exercise, and psychological interventions; 3) Implementing digital surveillance platforms to monitor postoperative weight fluctuations and track behavioral intervention adherence, enabling early detection of recurrence risk factors and establishing closed-loop management systems. The “Weight Management Year” initiative establishes a comprehensive institutional framework for multidisciplinary integration and sustained support in tertiary cancer prevention, facilitating the healthcare system’s evolution toward comprehensive life-course management approaches.

Current Challenges and Future Directions

While the “Weight Management Year” initiative provides a valuable policy framework and intervention platform for cancer prevention, several implementation challenges persist. First, public awareness of the connection between abnormal weight and cancer risk remains inadequate. The carcinogenic potential of obesity has not been fully recognized by the general population, resulting in limited motivation for active weight management and difficulty sustaining weight loss behaviors (19). Second, the integration of clinical and public health approaches to weight management and cancer prevention lacks systematic support at both policy and service delivery levels. A coordinated service mechanism and comprehensive multi-disease prevention framework spanning intervention, screening, and rehabilitation have yet to be established. Third, multi-sectoral collaboration mechanisms remain underdeveloped. Weight management initiatives are still largely confined within health and disease control systems, with insufficient engagement and resource

coordination from critical sectors such as education, medical insurance, and social services. This limitation significantly hinders the widespread adoption and long-term sustainability of intervention measures (20).

Moving forward, cancer prevention must leverage the opportunity presented by the “Weight Management Year” initiative to drive a strategic transformation from secondary prevention measures, such as screening, toward zero-level and primary prevention strategies emphasizing health education, health promotion, and behavioral interventions. This shift will advance the prevention frontier (21). Policy measures should be tailored to specific populations: for adolescents, school-based interactive health education programs should be strengthened; for middle-aged and elderly populations, customized lifestyle intervention programs should be promoted through community healthcare centers. Public science communication and risk awareness education must be enhanced, incorporating the message that “obesity represents a preventable and controllable cancer risk factor” (22) as a central theme in health promotion to improve overall societal health literacy. Additionally, an integrated reconstruction of the prevention and control service system should be promoted, systematically embedding weight management mechanisms into screening, intervention, rehabilitation, and follow-up processes to establish standardized collaborative pathways linking cancer prevention and weight management. Furthermore, multi-sectoral coordination must be strengthened to institutionalize the connection between weight management policies and cancer prevention strategies, ultimately building a comprehensive cancer prevention and control system covering the entire population across the life course.

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REFERENCES

- GBD 2021 Adult BMI Collaborators. Global, regional, and national prevalence of adult overweight and obesity, 1990–2021, with forecasts to 2050: a forecasting study for the Global Burden of Disease Study 2021. *Lancet* 2025;405(10481):813 – 38. [https://doi.org/10.1016/S0140-6736\(25\)00355-1](https://doi.org/10.1016/S0140-6736(25)00355-1).
- Wang LM, Zhou B, Zhao ZP, Yang L, Zhang M, Jiang Y, et al. Body-mass index and obesity in urban and rural China: findings from consecutive nationally representative surveys during 2004–18. *Lancet* 2021;398(10294):53 – 63. [https://doi.org/10.1016/S0140-6736\(21\)00798-4](https://doi.org/10.1016/S0140-6736(21)00798-4).
- Dong YH, Yuan CZ, Dang JJ, Song XL, Cheng G, Chen YJ, et al. Control of childhood obesity and implications for policy in China. *Lancet Public Health* 2024;9(12):e1125 – 35. [https://doi.org/10.1016/S2468-2667\(24\)00263-9](https://doi.org/10.1016/S2468-2667(24)00263-9).
- Lam TK, Daschner P, Ishibe N, Wali A, Hall K, Czajkowski S, et al. Metabolic Dysregulation and Cancer Risk Program (MeDOC): a transdisciplinary approach to obesity-associated cancers. *J Natl Cancer Inst* 2024;116(10):1555 – 61. <https://doi.org/10.1093/jnci/djae134>.
- Lauby-Secretan B, Scoccianti C, Loomis D, Grosse Y, Bianchini F, Straif K. Body fatness and cancer — Viewpoint of the IARC working group. *N Engl J Med* 2016;375(8):794 – 8. <https://doi.org/10.1056/NEJMsrl606602>.
- Renehan AG, Tyson M, Egger M, Heller RF, Zwahlen M. Body-mass index and incidence of cancer: a systematic review and meta-analysis of prospective observational studies. *Lancet* 2008;371(9612):569 – 78. [https://doi.org/10.1016/S0140-6736\(08\)60269-X](https://doi.org/10.1016/S0140-6736(08)60269-X).
- Liu C, Yuan YC, Guo MN, Xin Z, Chen GJ, Ding N, et al. Rising incidence of obesity-related cancers among younger adults in China: a population-based analysis (2007–2021). *Med* 2024;5(11):1402 – 12.e2. <https://doi.org/10.1016/j.medj.2024.07.012>.
- Singh A, Mayengbam SS, Yaduvanshi H, Wani MR, Bhat MK. Obesity programs macrophages to support cancer progression. *Cancer Res* 2022;82(23):4303 – 12. <https://doi.org/10.1158/0008-5472.CAN-22-1257>.
- National Health Commission of the People's Republic of China. Implementation plan for the “Weight management year”. *Chin Pract J Rural Doct* 2024;31(8):1 – 2,4. <https://doi.org/10.3969/j.issn.1672-7185.2024.08.001>.
- Office of the National Health Commission, Office of the National Administration of Traditional Chinese Medicine. Notice on the establishment and management of healthy weight management clinics (Guowei Ban Yizheng Han [2025] No 113). 2025. <https://www.nhc.gov.cn/yzygj/c100068/202504/52bcc453524149b884ddf6e2969d24d9.shtml>. [2025-8-19]. (In Chinese).
- Lloyd-Jones DM, Hong YL, Labarthe D, Mozaffarian D, Appel LJ, Van Horn L, et al. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's strategic Impact Goal through 2020 and beyond. *Circulation* 2010;121(4):586 – 613. <https://doi.org/10.1161/CIRCULATIONAHA.109.192703>.
- Birks S, Peeters A, Backholer K, O'Brien P, Brown W. A systematic review of the impact of weight loss on cancer incidence and mortality. *Obes Rev* 2012;13(10):868 – 91. <https://doi.org/10.1111/j.1467-789X.2012.01010.x>.
- Liao CY, Sheffield KM, Hoog MM, Schapiro D, Keni R, Gathirua-Mwangi WG, et al. EPR24-109: intentional weight loss and associated cancer incidence among patients with overweight or obesity: a systematic literature review. *J Natl Compr Canc Netw* 2024;22(2.5):EPR24 – 109. <https://doi.org/10.6004/jnccn.2023.7270>.
- Yuan CZ, Dong YH, Chen H, Ma L, Jia LH, Luo JY, et al. Public health interventions against childhood obesity in China. *Lancet Public Health* 2024;9(12):e1115 – 24. [https://doi.org/10.1016/S2468-2667\(24\)00245-7](https://doi.org/10.1016/S2468-2667(24)00245-7).
- Rivera-Izquierdo M, Pérez de Rojas J, Martínez-Ruiz V, Arrabal-Polo MÁ, Pérez-Gómez B, Jiménez-Moleón JJ. Obesity and biochemical recurrence in clinically localised prostate cancer: a systematic review and meta-analysis of 86,490 patients. *Prostate Cancer Prostatic Dis* 2022;25(3):411 – 21. <https://doi.org/10.1038/s41391-021-00481-7>.
- Hu CL, Zhang Q, Jin XH, Zhang L, Zhang YM, Zhu QK, et al. A paradox between preoperative overweight/obesity and change in weight during postoperative chemotherapy and its relationship to survival in stage II and III colorectal cancer patients. *Clin Nutr* 2021;40(4):2410 – 9. <https://doi.org/10.1016/j.clnu.2020.10.039>.
- Bergom C, Kelly T, Bedi M, Saeed H, Prior P, Rein LE, et al. Association of locoregional control with high body mass index in women undergoing breast conservation therapy for early-stage breast cancer. *Int J Radiat Oncol Biol Phys* 2016;96(1):65 – 71. <https://doi.org/10.1016/j.ijrobp.2016.04.020>.
- Yoon HH, Lewis MA, Shi Q, Khan M, Cassivi SD, Diasio RB, et al. Prognostic impact of body mass index stratified by smoking status in patients with esophageal adenocarcinoma. *J Clin Oncol* 2011;29(34):4561 – 7. <https://doi.org/10.1200/JCO.2011.37.1260>.
- Chinese Nutrition Society Obesity Prevention and Control Section, Chinese Nutrition Society Clinical Nutrition Section, Chinese Preventive Medicine Association Behavioral Health Section, et al. Expert consensus on obesity prevention and treatment in China. *Chin J Epidemiol* 2022;43(5):609 – 26. <https://doi.org/10.3760/cma.j.cn112338-20220402-00253>.
- Cong FC, Jia CC, Li ZG. Study on the development path of integration of prevention and treatment in the process of Chinese modernization. *Health Econ Res* 2024;41(10):6 – 9. <https://doi.org/10.14055/j.cnki.33-1056/f.2024.10.003>.
- Gao P, Xia Q, Li YF. The specific methods analysis of health management in cancer prevention and control. *Chin J Soc Med* 2012;29(6):390 – 2. <https://doi.org/10.3969/j.issn.1673-5625.2012.06.008>.
- World Cancer Research Fund, American Institute for Cancer Research. Diet, nutrition, physical activity and cancer: a global perspective. 2018. <https://www.wcrf.org/diet-activity-and-cancer/>. [2025-7-10].