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GUEST EDITOR'S PREFACE

Eliminating cervical cancer: a global health imperative for women



GUEST EDITOR

Professor Youlin Qiao is a Distinguished Professor at Peking Union Medical College and a Professor at the Department of Cancer Epidemiology at the National Cancer Center/Cancer Hospital, Chinese Academy of Medical Sciences. His research focuses on prevention and control strategies for cervical and breast cancers; global health implementation studies; and the development and application of digital health and artificial intelligence technologies. He serves as a member of the World Health Organization (WHO) Expert Group on the Global Elimination of Cervical Cancer, and as an expert in the HPV Working Group of the WHO Immunization Strategic Advisory Group (SAGE). Professor Qiao is a recipient of the State Council Special Government Allowance, the WHO/International Agency for Research on Cancer (IARC) Medal of Honor (2011), and the Pearline Global Prize for Humanitarian Scientist in Cancer Research (2018). His work, comprising more than 770 publications, has been cited more than 31,500 times, reflecting an H-index of 89.

As the 30th anniversary of the landmark Beijing Fourth World Conference on Women approaches, the forthcoming 2025 World Women's Summit in Beijing offers a timely platform to reaffirm commitments to women's well-being worldwide. In alignment with this milestone, *Cancer Biology & Medicine* is proud to present this special issue dedicated to accelerating the global elimination of cervical cancer.

Cervical cancer is a preventable and treatable disease, yet it remains the fourth most common cancer among women worldwide, and poses a disproportionate burden on low- and middle-income countries (LMICs). The WHO's launch of the Global Strategy to Accelerate the Elimination of Cervical Cancer as a public health problem marked a historic turning point, which set ambitious "90-70-90" percentage targets for human papillomavirus (HPV) vaccination, screening, and treatment, respectively, by the year 2030. Although the necessary path to eliminate cervical cancer is scientifically clear, achieving this goal is fraught with challenges, including vast disparities in resource allocation, infrastructure, and implementation capacity.

This special issue begins with an Editorial that provides a comprehensive overview of global cervical cancer disparities and discusses China's contributions to progress toward cervical cancer elimination. This Editorial, authored by a leading expert from the WHO IARC, offers an international perspective on China's advancements.

A Perspective article draws lessons from a multi-country peer-learning initiative, addressing barriers to the introduction, scale-up, and sustainability of HPV vaccination in resource-limited settings. Another Perspective article further explores the use of modeling studies to inform policy decisions and highlights how various methodological approaches can generate evidence of resource-sensitive strategies in LMICs. It also addresses the substantial challenges in translating model recommendations into practical implementation.

A Letter presents a cross-sectional study evaluating the effects of short educational videos on HPV vaccination willingness among university students, and highlights the role of momentary interventions in increasing vaccine acceptance.

An Original Article presents a detailed analysis of cervical cancer burden and trends in China from 2000 to 2020, including age- and region-stratified data, and comparisons across 4 Asia-Pacific countries. By linking epidemiological trends to screening and vaccination progress, this study underscores the urgency of expanding HPV-based screening and vaccination coverage through the National Immunization Program to accelerate cervical cancer control.

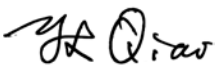
Four articles focusing on cervical cancer screening are subsequently presented, including intelligent training for colposcopy, screening and triage algorithms, intelligent population management platforms, and health economic evaluations. One study evaluates an intelligent digital education tool for colposcopy (iDECO), thus providing the first international assessment of a bilingual digital system designed to enhance colposcopy quality. The results demonstrate substantially increased diagnostic accuracy, particularly in identifying high-grade lesions, thereby highlighting the potential of digital education tools to close training gaps and support cervical cancer elimination efforts worldwide.

Another article evaluates multiple HPV-based screen-and-triage algorithms in real-world rural Chinese settings, and proposes a strategy that combines genotyping with cytology or methylation testing to optimize specificity without compromising sensitivity when resources are available. The third article introduces an intelligent digital platform designed to manage the entire cervical cancer screening process, and demonstrates its utility in decreasing over-screening and improving the detection and management of high-grade lesions. The fourth article compares the economic burden of cervical cancer across various healthcare pathways, and provides robust evidence that government-organized screening decreases financial strain and promotes health equity.

Finally, an original article introduces a novel multi-epitope protein vaccine targeting HPV16, which achieved significant tumor regression and cytotoxic immune responses in preclinical models. The findings suggest promising pathways for therapeutic vaccine development.

Through these diverse interconnected contributions, this special issue highlights the integral roles of scientific innovation, policy alignment, and equitable implementation in the global fight against cervical cancer. We hope that the evidence and insights presented in this issue will inform and inspire researchers, practitioners, and policymakers, particularly those gathering at the 2025 World Women's Summit, to strengthen their commitments and actions toward the global elimination of cervical cancer.

We extend our sincere gratitude to all authors and reviewers who have contributed their expertise to this important endeavor. We are also deeply thankful to the editorial board members of *Cancer Biology & Medicine*, particularly Professor Xi-Shan Hao, for their steadfast support in producing this timely special issue.



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