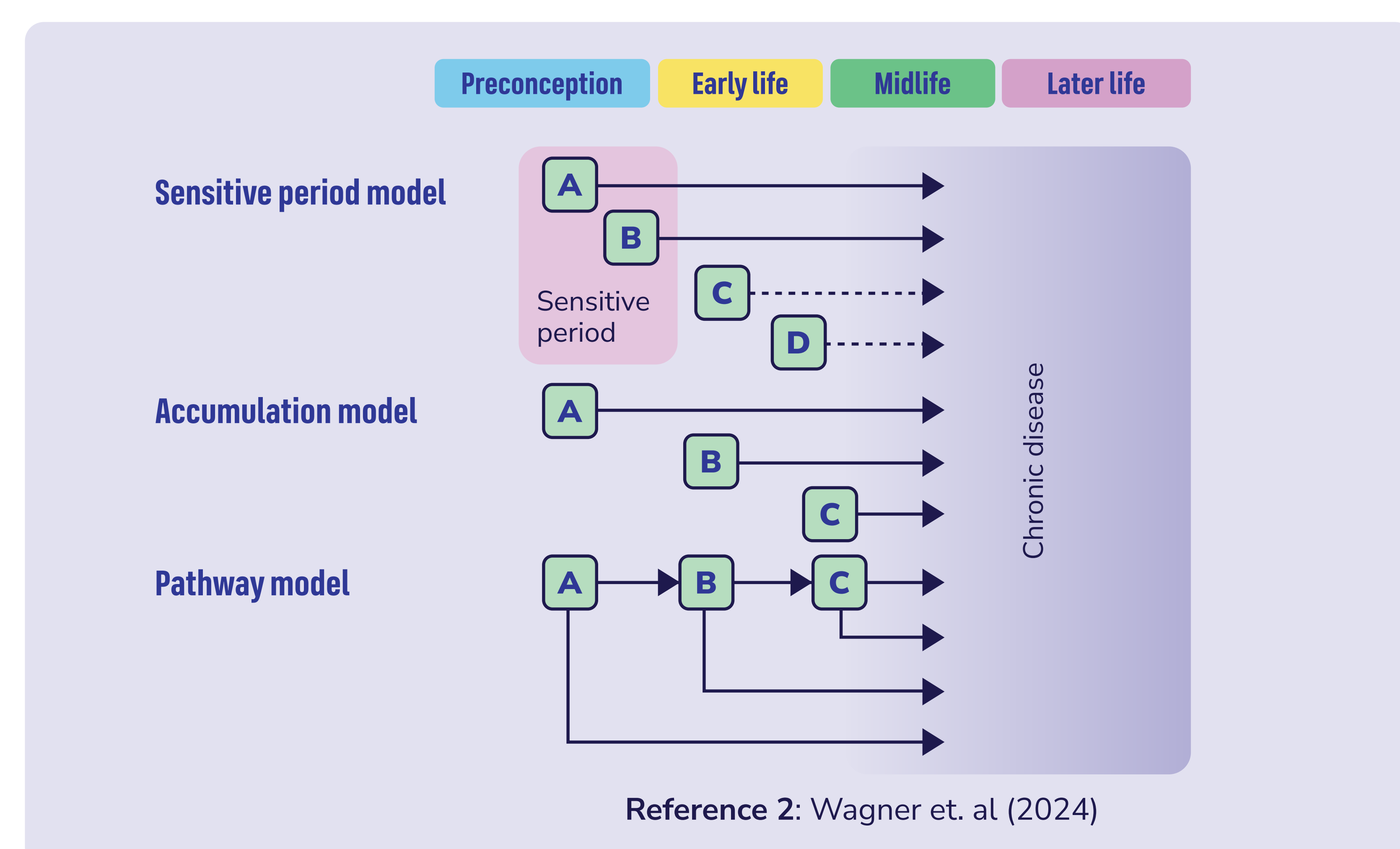


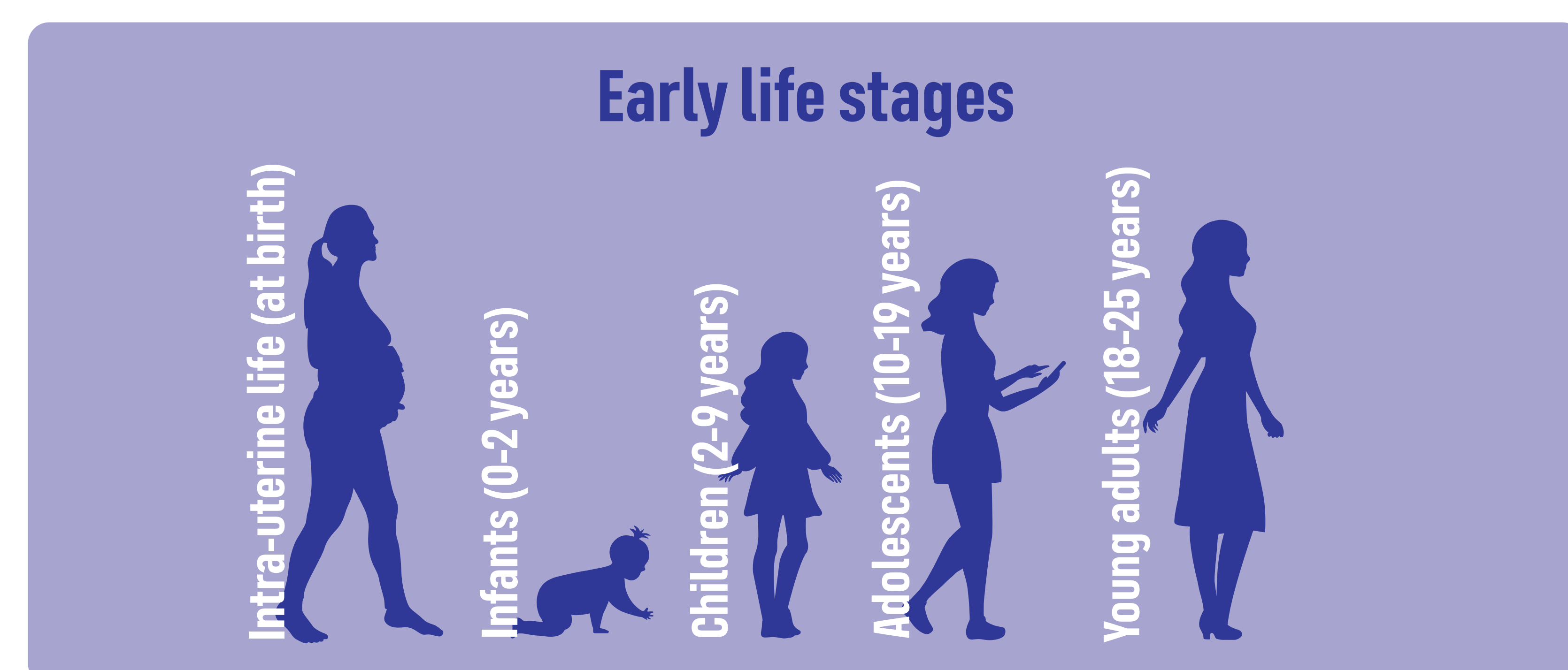
## Introduction

- Exposure to risk factors in early life (defined as birth, childhood, adolescence, and young adulthood) impacts disease risk (including cancer) in adulthood.
- Identification of age-specific “windows of opportunity” enables development of cancer prevention guidance and recommendations for different life stages.<sup>1</sup>
- World Cancer Research Fund International identified early life as a priority within our Global Cancer Update Programme (CUP Global) – **Step 1**.



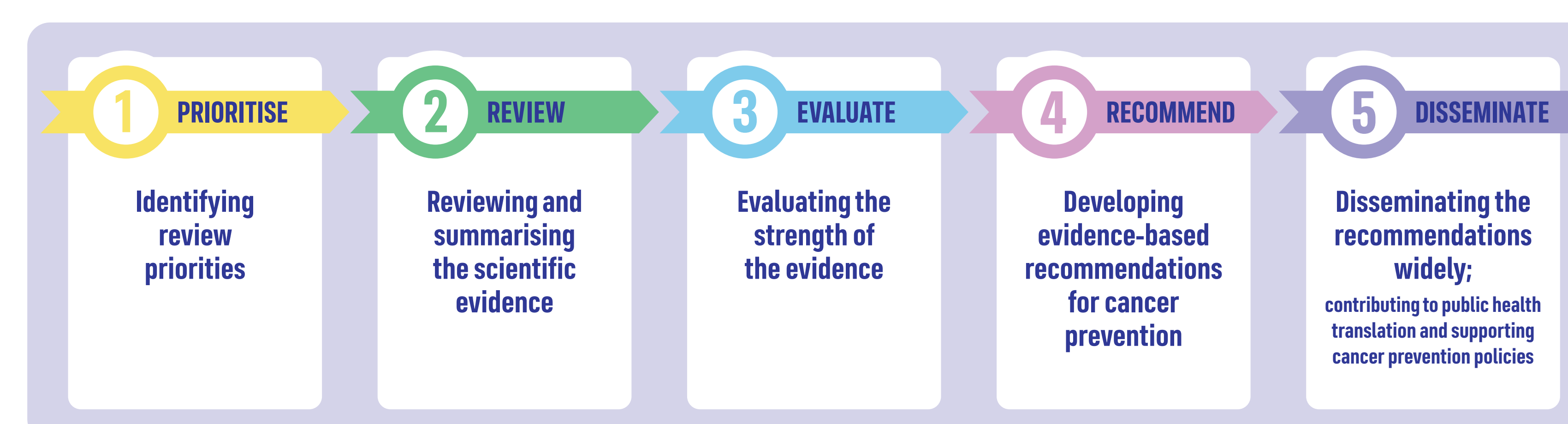
## Lifecourse research in CUP Global

- Collaborations: Wageningen University and Research (WUR); International Agency for Research on Cancer (IARC) systematically reviewed and meta-analysed the epidemiological and mechanistic evidence – **Step 2**.
- Exposures: Anthropometry; alcohol consumption.
- Outcomes: Colorectal cancer (CRC), review complete; breast cancer (BC), review in progress.

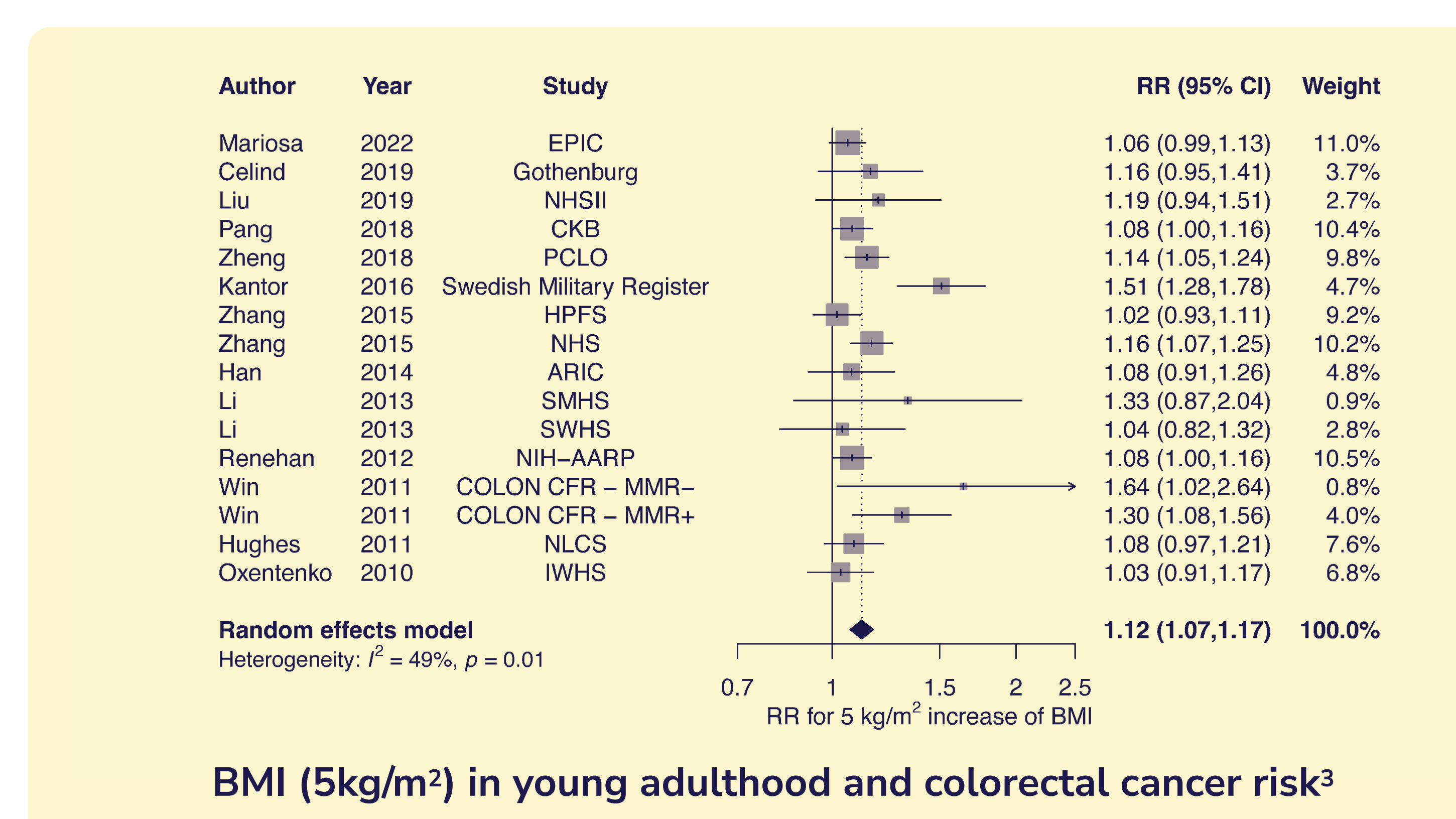
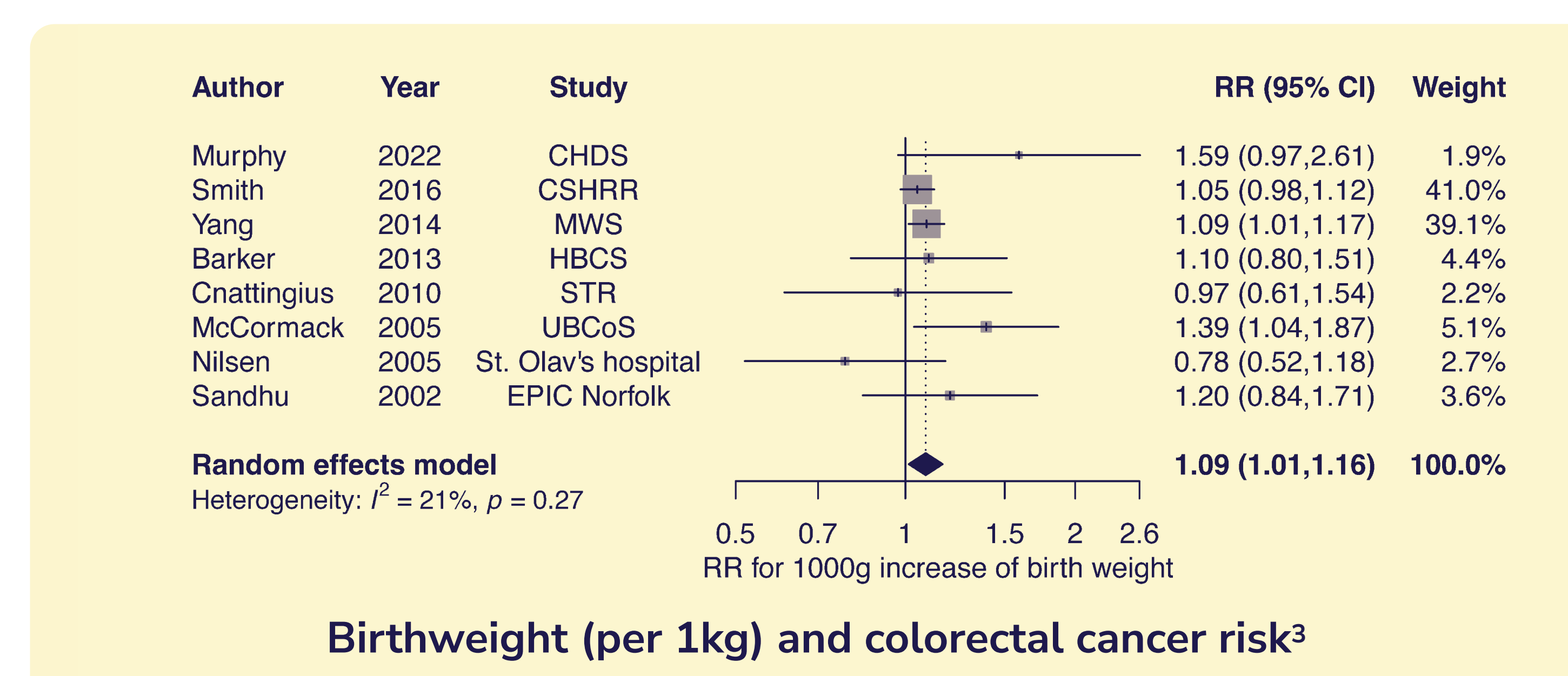


## CUP Global processes

Structured process: identify priorities, review scientific evidence, evaluate strength of evidence, develop evidence-based guidance and recommendations for cancer prevention.



## Results: Colorectal cancer



### Further results<sup>3</sup>

- Childhood – each 1SD increase in BMI associated with increased colon cancer risk.
- Adolescence – each 1SD increase in BMI associated with increased CRC risk.
- Mechanistic evidence related to inflammation and increased levels of inflammatory factors (leptin, CRP, IL-6, and TNF- $\alpha$ ).

## Results: Breast cancer

- Body weight and shape during childhood measured via BMI and pictogram – papers being prepared.



### Preliminary results<sup>4</sup>:

- Greater birth weight, length and taller height in childhood associated with increased risk.
- Higher BMI in childhood, adolescence and young adulthood associated with lower risk.
- Breast density plausible mechanistic link between birthweight and breast cancer. Limited evidence for sex hormones.

## From evidence to panel conclusions

The strength of the evidence evaluated by an expert Panel – **Step 3**.

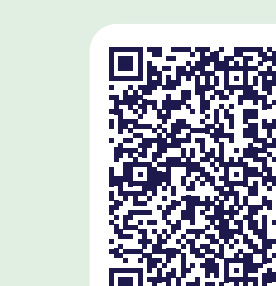
They concluded there is strong evidence of a causal association between:

- Higher adiposity in childhood, adolescence, or young adulthood and a modest increase in CRC risk.
- Higher adiposity in childhood, adolescence, or young adulthood and a modest decrease in BC risk (overall, premenopausal, and postmenopausal).
- Greater height from childhood to adolescence and a modest increase in BC risk.

## Conclusions and future considerations

- Our research exploring early life in relation to colorectal and breast cancer demonstrated an important role of early life exposures and offer mechanistic insights.
- Overall public health recommendation remains to maintain a healthy weight and prevent adiposity.<sup>5</sup>
- Our findings suggest need for: 1) collaborative and novel ways of undertaking lifecourse research and 2) development of cancer prevention policy and public health guidance and recommendations.
- World Cancer Research Fund International is producing a report detailing our lifecourse research and guidance and recommendations on future research, policy, and public health messaging – **Steps 4 and 5**.

For further information see:  
[wcrf.org/understanding-early-years-cancer-risk-adulthood](https://wcrf.org/understanding-early-years-cancer-risk-adulthood)



### References

- Baker et al. (2025) Lifecourse research in cancer: context challenges, and opportunities when exploring exposures in early life and cancer risk in adulthood. Health Open Research. 6-16.
- Wagner et al. (2024) Life course epidemiology and public health. The Lancet Public Health. Volume 9, Issue 4, E261-E269.
- Van Zutphen et al. (2025). IJC. 157, 6. Early-life anthropometry and colorectal cancer risk adulthood: Global Cancer Update Programme (CUP Global) systematic literature review and meta-analysis of prospective studies
- Papers being prepared for publication
- Leitzmann et al. (2026) European Code Against Cancer, 5th edition – diet, excess body weight, physical activity, sedentary behavior, breastfeeding, and cancer. Molecular Oncology. 20: 28-48