

Short-term weight change is associated with the accumulation of multimorbidity: A 20-year cohort study in Australia

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Introduction

- Multimorbidity (MM)** is the co-existence of two or more chronic conditions ^{1,2}.
- Weight change has been studied in relation to many individual chronic conditions, limited studies have focused on weight change and multimorbidity.
- Objective:** to examines the relationship between short-term weight change and the accumulation of multimorbidity in women's mid-life.
- Data is from the Australian Longitudinal Study on Women's Health (ALSWH, 1996-2016).

Methodology



Mid-age cohort

Born 1946-51

7357 women

Aged **45-50** yrs in 1996

Chronic conditions:

- Hypertension
- Diabetes
- Heart disease
- Stroke
- Cancer
- Asthma
- COPD *
- Arthritis
- Osteoporosis
- Depression/anxiety

Annual body weight change (%) was categorised into seven groups:

- high loss ($\leq -5\%$);
- moderate loss (-5 to $\leq -2.5\%$);
- small loss (-2.5 to $\leq -1.0\%$);
- stable (-1.0 to $\leq +1.0\%$);
- small gain ($+1.0$ to $\leq +2.5\%$);
- moderate gain ($+2.5$ to $\leq +5\%$);
- high gain ($> +5\%$).

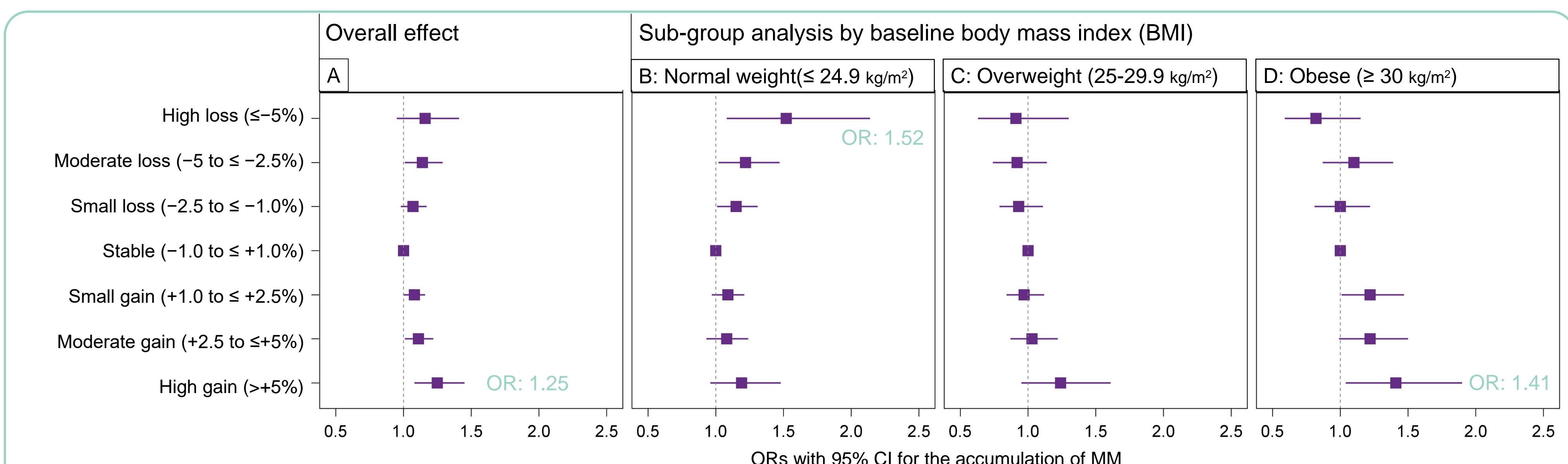
followed up approximately every 3 years to **2016 (65-70 yrs)**

*COPD, chronic obstructive pulmonary disease.

Results



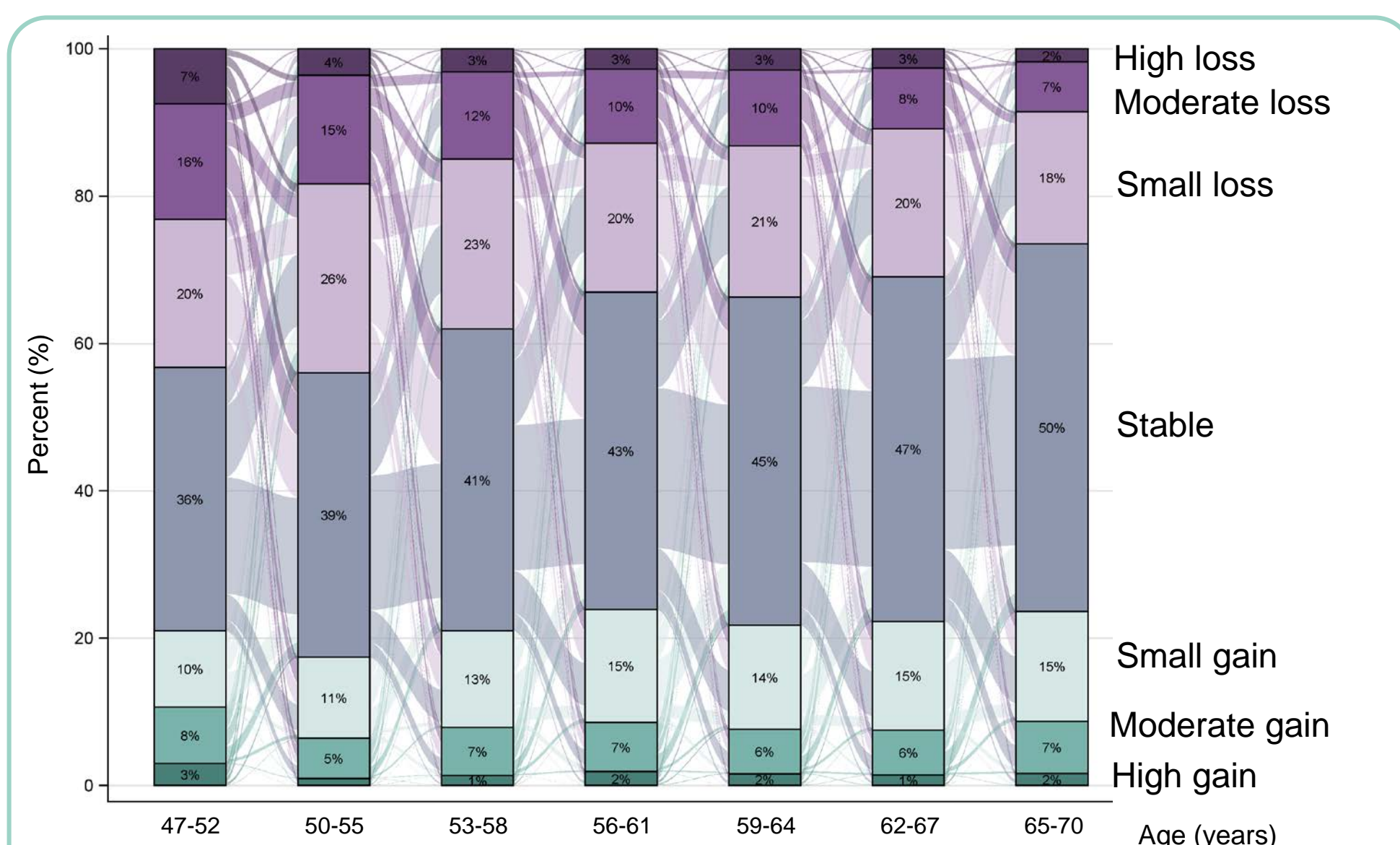
- Over 20 years, **60.4%** women developed multimorbidity (n=4442)



- High weight gain was associated with a **25%** increased odds of MM (OR 1.25, 95% CI 1.08-1.45) *.
- High weight loss was also associated with increased odds of MM in women with normal weight at baseline (OR **1.52**, 95% CI 1.08-2.14) *.

*Compared to women maintaining a stable weight, adjusted for sociodemographic and lifestyle factors in generalized estimating equations models.

A: the models includes body weight changes and all covariates. B, C, D: three models include body weight changes, baseline BMI categories, and all covariates, respectively.



Transitions of women in different weight change categories

The bars with different colors show the distribution of different categories at each survey, and the links between bars show the flow from one category to another

Conclusion

- Short-term weight gain is associated with significantly increased odds of MM in mid-aged women.
- Weight loss was associated with increased odds of MM in women with normal BMI at baseline.
- These findings support a persistent weight management regime and prevention of weight gain throughout women's midlife.

References

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