Conclusions:

The weight loss among 70+ year olds seems worrying, but might be age related. Moreover, younger women and men with low education gained weight, groups known to be vulnerable for weight gain. Further analyses are required to evaluate whether containment measures related to COVID-19 pandemic have caused additional change compared to ageing and time related change.

Key messages:

- Few weight changes were observed in the Finnish adult population. As weight gain/loss may take longer time to develop, further studies are needed to address the long term effects of COVID-19 pandemic.
- To avoid increasing health inequity after pandemic, public health promotion should stress obesity prevention among young women plus men with low education. Weight loss is a concern among the elderly.

Individual level changes in body weight among Finnish adult population during the COVID-19 pandemic

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Background:

The indirect effects of COVID-19 pandemic are yet undefined, but behavioral and lifestyle consequences of the containment measures may cause weight changes, with different concerns across demographic groups. Our aim was to determine weight changes based on the data collected from same individuals before (2017) and during (2020) the COVID-19 pandemic. **Methods:**

Participants aged 25+ years, from the nationally representative FinHealth 2017 Study and its follow-up survey in autumn 2020, with information on self-reported weight in both years were included (n=4770). Weight maintenance was defined as $<\pm 5\%$ change in body weight for each individual (i.e. weight loss = $\geq 5\%$ loss; weight gain = $\geq 5\%$ gain). Prevalence was estimated using inverse probability weights, acknowledging sampling design and non-response.

Results:

Overall, two thirds of the population maintained weight during follow-up, but prevalence rates for weight change differed by age and sex. Prevalence of weight loss was highest among 70+ year olds (22% in men, 95% confidence interval (CI) 17-27; 26% in women, 95% CI 22-30), while they rarely experienced weight gain. Among 50-69 year olds weight gain was as common as loss, being around 15% for both indicators and sexes. Prevalence of weight gain was highest among 25-49 year olds (20% in men, 95% CI 18-23; 36% in women, 95% CI 33-40). Men with lowest education had gained weight more often (24%, 95% CI 19-30) than those with middle (16%, 95% CI 14-19) or high (14%, 95% CI 12-16) education, while for women no differences emerged, the prevalence ranging between 20-24% by education.