

# The adult generations of today are less healthy than their counterparts of previous generations

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Sophia Antipolis, 10 April 2013. Despite their greater life expectancy, the adults of today are less "metabolically" healthy than their counterparts of previous generations. That's the conclusion of a large cohort study from the Netherlands which compared generational shifts in a range of well established metabolic risk factors for cardiovascular disease. Assessing the trends, the investigators concluded that "the more recently born generations are doing worse", and warn "that the prevalence of metabolic risk factors and the lifelong exposure to them have increased and probably will continue to increase".

The study, reported today in the *European Journal of Preventive Cardiology*, analysed data on more than 6,000 individuals in the Doetinchem [Cohort Study](#), which began in 1987 with follow-up examinations after six, 11, and 16 years.(1,2) The principal risk factors measured were body weight, blood pressure, total [cholesterol levels](#) (for hypercholesterolaemia) and levels of high-density lipoprotein (HDL) cholesterol, which is considered "protective".

The subjects were stratified by sex and generation at baseline into ten-year [age groups](#) (20, 30, 40, and 50 years); the follow-up analyses aimed to determine whether one generation had a different risk profile from a generation born ten years earlier - what the investigators called a "generation shift".

Results showed that the prevalence of overweight, obesity, and [hypertension](#) increased with age in all generations, but in general the more recently born generations had a higher prevalence of these [risk factors](#) than generations born ten years earlier. For example, 40% of the males who were in their 30s at baseline were classified as overweight; 11 years later the prevalence of overweight among the second generation of men in their 30s had increased to 52% (a statistically significant generational shift). In women these unfavourable changes in weight were only evident between the most recently born generations, in which the prevalence of obesity doubled in just 10 years.

Other findings from the study included:

- Unfavourable (and statistically significant) generation shifts in hypertension in both sexes between every consecutive generation (except for the two most recently born generations of men).
- Unfavourable generation shifts in diabetes between three of the four generations of men, but not of women.
- No generation shifts for hypercholesterolaemia, although favourable shifts in HDL cholesterol were only observed between the oldest two generations.

As for the overall picture, and based on the evidence of a "clear" shift in the prevalence of overweight and hypertension, the investigators emphasise that "the more recently born adult generations are doing worse than their predecessors". Evidence to explain the changes is not clear, they add, but note studies reporting an increase in physical inactivity.

What do the findings mean for public health? First author Gerben Hulsege from the Dutch National Institute for Public Health and the Environment emphasises the impact of obesity at a younger age. "For

example," he explains, "the prevalence of obesity in our youngest generation of men and women at the mean age of 40 is similar to that of our oldest generation at the mean age of 55. This means that this younger generation is '15 years ahead' of the older generation and will be exposed to their obesity for a longer time. So our study firstly highlights the need for a healthy body weight - by encouraging increased physical activity and balanced diet, particularly among the younger generations.

"The findings also mean that, because the prevalence of smoking in high-income countries is decreasing, we are likely to see a shift in non-communicable disease from smoking-related diseases such as lung cancer to obesity-related diseases such as diabetes. This decrease in smoking prevalence and improved quality of health care are now important driving forces behind the greater [life expectancy](#) of younger generations, and it's likely that in the near future life expectancy will continue to rise - but it's also possible that in the more distant future, as a result of our current trends in obesity, the rate of increase in life expectancy may well slow down, although it's difficult to speculate about that."

Provided by European Society of Cardiology

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