

IGM Highlight 1: Severe obesity increases health care cost and productivity loss

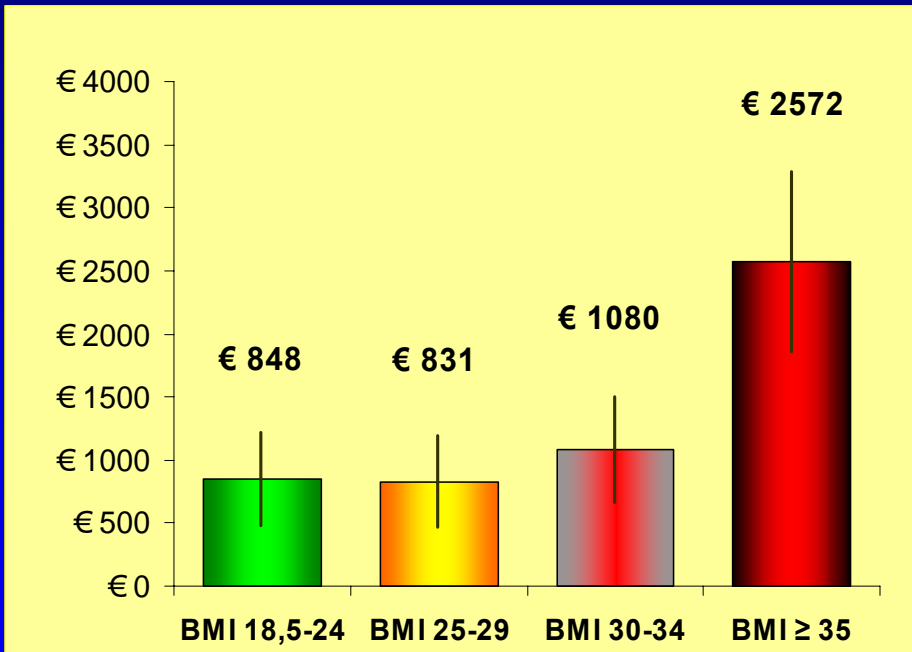
Obesity has been classified as both an epidemic and as one of our greatest public health threats. Moreover, the recent growth in obesity might have serious adverse economic consequences in terms of increasing obesity-related health care costs and productivity losses. Aim of our study was to estimate and compare the direct medical costs of illness as well as the productivity costs of German adults in different BMI (body mass index) groups and different degrees of obesity. In a sub-sample ($n = 947$) of the KORA-Survey S4, a cross-sectional health survey of the German adult population in the Augsburg region (age: 25-74 years) conducted 1999/2001, visits to physicians, receipt or purchase of drugs, inpatient days in hospital, and days of inability to work were assessed over half a year via three computer-aided telephone interviews. BMI was assessed anthropometrically. Respondents in normal weight ($18.5 \leq \text{BMI} < 25$), preobese ($25 \leq \text{BMI} < 30$), moderately obese ($30 \leq \text{BMI} < 35$), and severely obese ($\text{BMI} \geq 35$) range were compared in their cost of illness via analyses of (co-)variance and regression analyses based on generalized linear models. Physician visits and inpatient days were valued as recommended by the German Working Group for Methods in Health Economic Evaluation, drugs by actual prices, and productivity losses by individual labour incomes. Sex, age, socio-economic status, health insurance (public vs. private), and place of residence (urban vs. rural) were adjusted for.

Respondents with moderate obesity statistically did not differ significantly in their yearly direct medical costs from those in normal weight or preobese range (1,080€ vs. 848€ and 831€), but those with severe obesity had significantly higher costs (2,572€). Subanalyses revealed that this result is largely due to inpatient days in hospital and consumption of drugs available on prescription only. Similar, however statistically not significant, patterns were identified for productivity costs. In sum, the results are in support of obesity-related excess cost of illness primarily in people with severe, and less with moderate obesity.

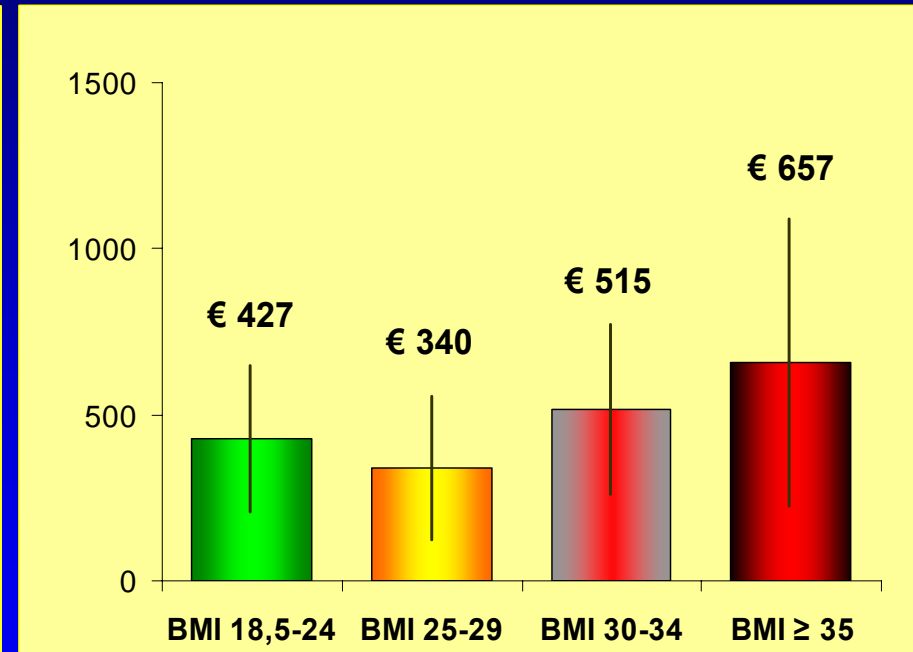
Source: Lengerke T von, Reitmeir P, John J: Direkte medizinische Kosten der (starken) Adipositas: ein Bottom-up-Vergleich über- vs. normalgewichtiger Erwachsener in der KORA-Studienregion. Das Gesundheitswesen 68, 110-115 (2006).

Severe obesity increases health care cost and productivity loss

Mean annual health care cost by BMI groups*



Mean annual productivity losses by BMI groups*

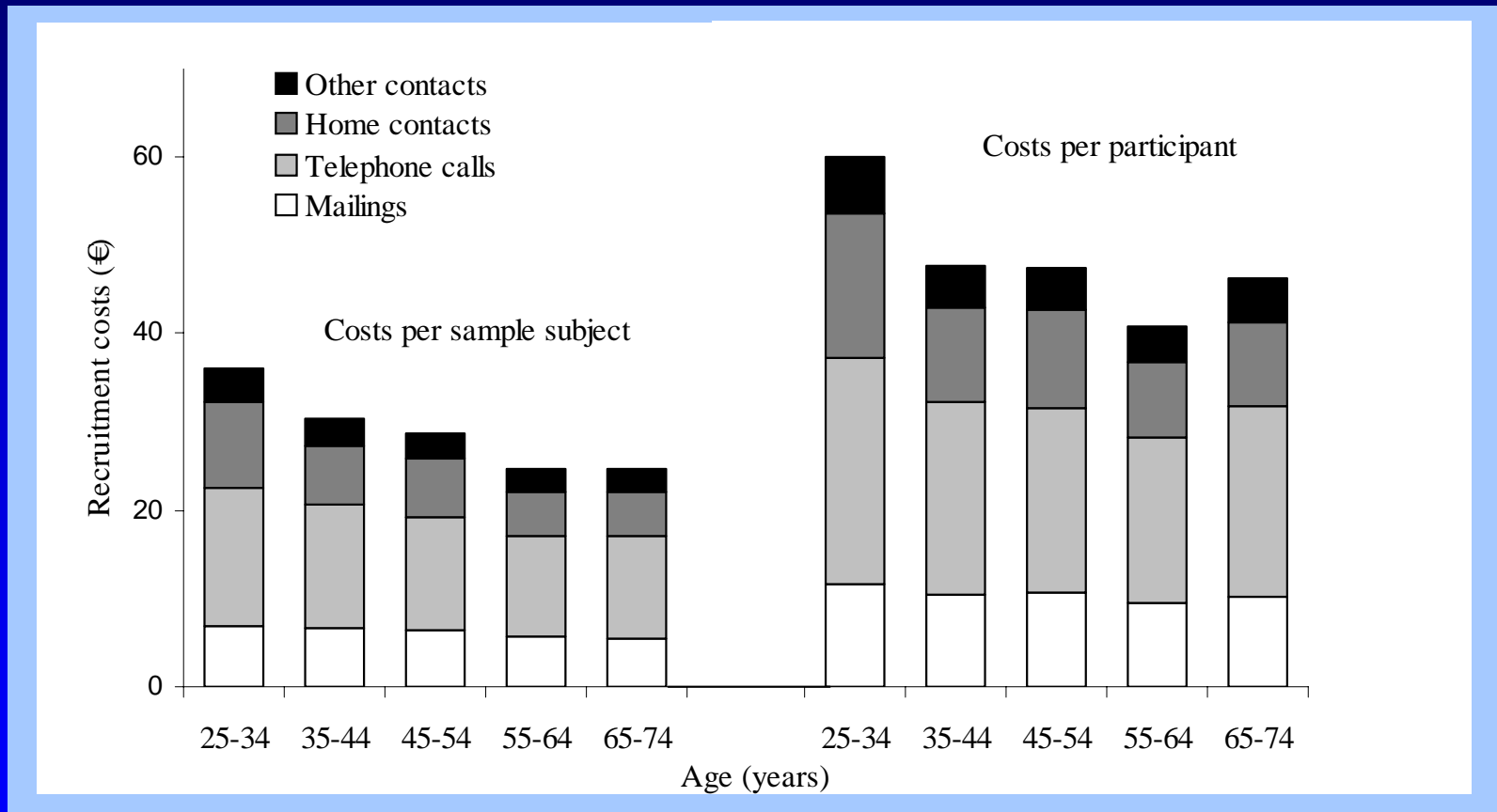


* adjusted for age, sex, socioeconomic status (Helmert-Index), region and health insurance

Lengerke T von, Reitmeir P, John J: Direkte medizinische Kosten der (starken) Adipositas: ein Bottom-up-Vergleich über- vs. normalgewichtiger Erwachsener in der KORA-Studienregion. Das Gesundheitswesen 68, 110-115 (2006).

Prolonged recruitment only slightly increases representativeness – at increasing marginal costs

Recruitment costs are highest in younger age groups who are more difficult to reach and less willing to participate



Holle R, Hochadel M, Reitmeir P, Meisinger C, Wichmann H-E. for the KORA Study Group: Prolonged recruitment efforts in health surveys. Effects on response, costs, and potential bias. *Epidemiology* 17, 639-643 (2006)

EQ-5D a reasonable preference-based index of quality-of-life of patients after acute cardiac event

For patients in rehabilitation after an acute cardiac event, EQ-5D VAS scores (utilities) mostly correlate well with established quality-of-life measures

	Admission	Discharge	3 Months
SF-36 Subscales			
General health perception	0.61	0.58	0.69
Physical functioning	0.68	0.71	0.71
Social functioning	0.61	0.49	0.55
Pain	0.57	0.67	0.61
Vitality	0.54	0.63	0.60
Role limitations (physical problems)	0.50	0.57	0.67
Mental health	0.46	0.46	0.49
Role limitations (emotional problems)	0.21	0.33	0.32
Mac New			
Global score	0.63	0.63	0.68
Subscale: social functioning	0.59	0.61	0.65
Subscale: emotional functioning	0.55	0.52	0.60
Subscale: physical functioning	0.68	0.68	0.72

Schweikert B, Hahmann H, Leidl R: Validation of the EuroQol Questionnaire in cardiac rehabilitation. Heart 92:62-7 (2006).

Higher cost sharing in health insurance reduces moral hazard *and* increases risk selection

Higher cost sharing lowered the number of physician visits

Effects of higher cost sharing: about 1/3 due to incentives, 2/3 due to selection

