

IGM Highlight 2: Prolonged recruitment in health surveys only slightly increases representativeness – at increasing marginal costs

Key issues in population health such as quality-of-life, but also many other data are only accessible by surveys. In health surveys, considerable effort and expense are invested to achieve a high response proportion, and thereby to reduce selection bias. We investigated the interrelation of recruitment efforts and expense with potential non-response bias, based on data from the KORA Augsburg health survey.

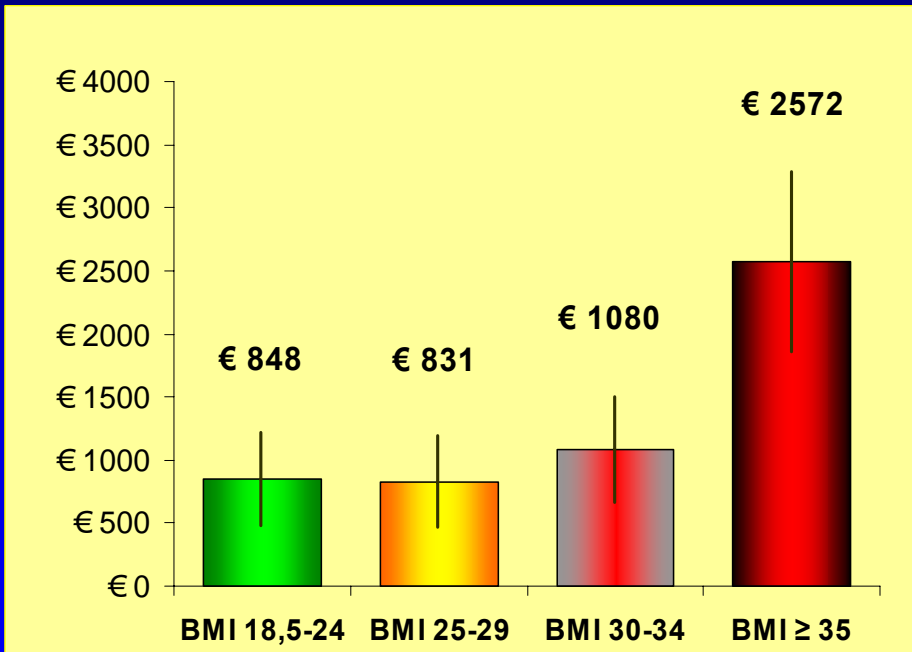
The distribution of total contacting cost per individual was highly skewed, with 50% of the total sum spent on 17% of the sample. Late responders showed many similarities with non-responders; both included a higher percentage of people with impaired health and with greater behavioral health risks. We were able to identify recruitment strategies that may save up to 25% of the recruitment costs without significant shift in the parameter estimates. Data collected in the short non-responder interview proved to be important to correct for possible non-response bias.

In general, prolonged recruitment efforts lead to a larger and more representative sample, but at increasing marginal costs. Specific cost-saving recruitment strategies that do not enhance response bias can be suggested. Interviews of non-responders may help to improve the control of bias.

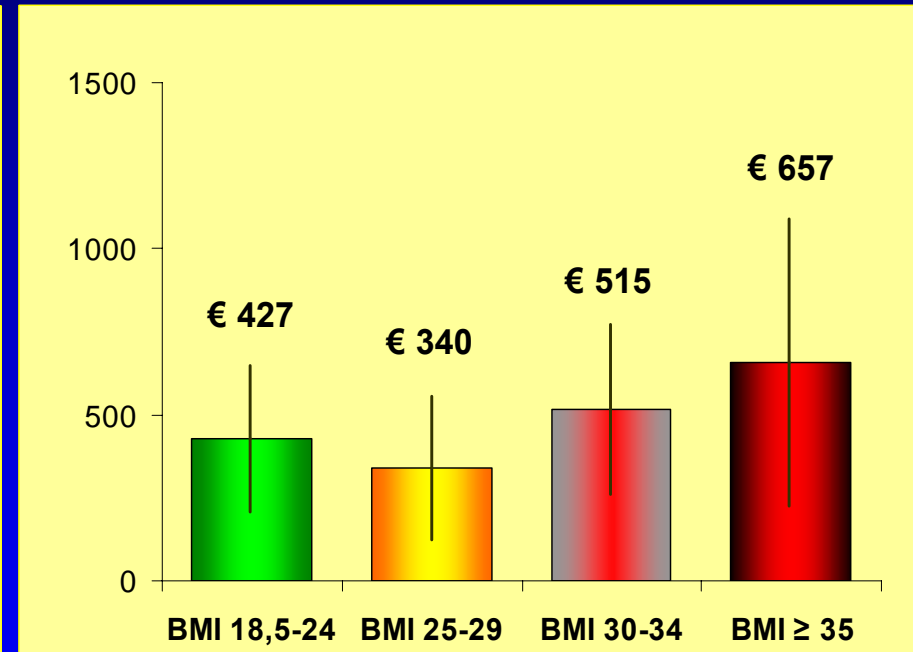
Source: Holle R, Hochadel M, Reitmeir P, Meisinger C, Wichmann H-E. for the KORA Study Group: Prolonged recruitment efforts in health surveys. Effects on response, costs, and potential bias. Epidemiology 17, 639-643 (2006).

Severe obesity increases health care cost and productivity loss

Mean annual health care cost by BMI groups*



Mean annual productivity losses by BMI groups*

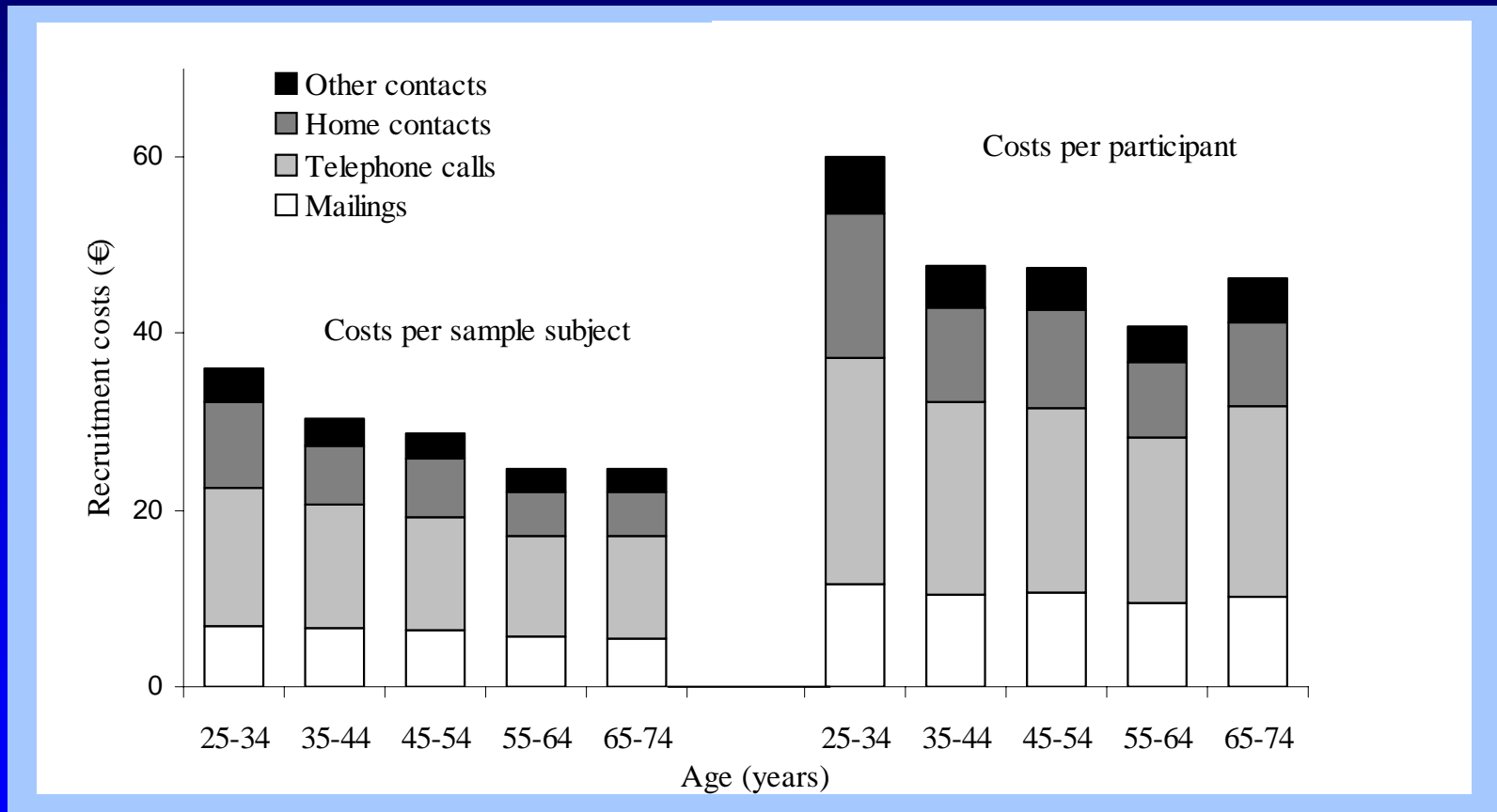


* adjusted for age, sex, socioeconomic status (Helmert-Index), region and health insurance

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

