*DC-Obesity*:A new model for estimating Differential lifetime Costs

of overweight and Obesity by socioeconomic status

Tables and Figures

Diana Sonntag12, PhD; Marc N. Jarczok31, PhD; Shehzad Ali1, PhD, MBBS

1 Mannheim Institute of Public Health, Social and Preventive Medicine, Mannheim Medical Faculty of the Heidelberg University, Mannheim,

Germany

2 Department of Health Sciences, University of York, York, UK

3 Institute of Medical Psychology, Center for Psychosocial Medicine, University Hospital Heidelberg, Heidelberg University, Germany

Figure 1: Design of *DC-Obesity* – Modelling the normal weight, overweight and obese pathway depending on SES



Figure 2a: Probability of moving to a higher BMI-category in the next 10 years, by age and SES group

# comparison within age group: While a normal weight individual in middle age and low SES has a 51% chance to become overweight within 10 years, a normal weight individual within the same age group but high SES has a 20% less chance to become overweight (40%).

\* comparison between age groups: While a normal weight individual in young aduldhood and low SES has a 38% chance to become overweight within 10 years, a normal weight individual in old age and same SES has a 48% higher chance to become overweight (57%).



#

#

\*

\*

Figure 2b: Probability of moving to a lower BMI-category in the next 10 years, by age and SES group



Figure 3: Cumulative excess cost of overweight and obesity, stratified by SES category (2016, €)



Table 1: Relative mortality risk by age group and BMI category



Table 2: Lifetime excess cost of overweight and obesity per person, stratified by SES category (2016, €)

|  |  |  |  |
| --- | --- | --- | --- |
| **Excess costs (€, per person)** | **Socioeconomic status** | | |
| **High** | **Middle** | **Low** |
| **I. Baseline Scenario: Past trend continues** |  |  |  |
| in the health care sector due to … |  |  |  |
| Overweight | 1,093 | 915 | 867 |
| Obesity | 3,162 | 5,246 | 5,807 |
|  |  |  |  |
| beyond the health care sector due to … |  |  |  |
| Overweight | 2,325 | 1,946 | 1,844 |
| Obesity | 1,500 | 2.489 | 2,756 |
|  |  |  |  |
| **II. Scenario: 1% reduction in BMI at baseline** |  |  |  |
| in the health care sector | 4,253 | 6,154 | 6,666 |
| beyond the health care sector | 3,825 | 4,434 | 4,597 |
|  |  |  |  |
| **III. Scenario: 14% reduction in BMI at baseline** |  |  |  |
| in the health care sector | 4,228 | 6,067 | 6,564 |
| beyond the health care sector | 3,817 | 4,406 | 4,565 |