Supplemental Material

Assessing the lifetime cost-effectiveness of low-protein infant formula as early obesity prevention strategy: the CHOP randomized trial

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Figure S1: Flowchart of children from study entry to 6 years of age by study group

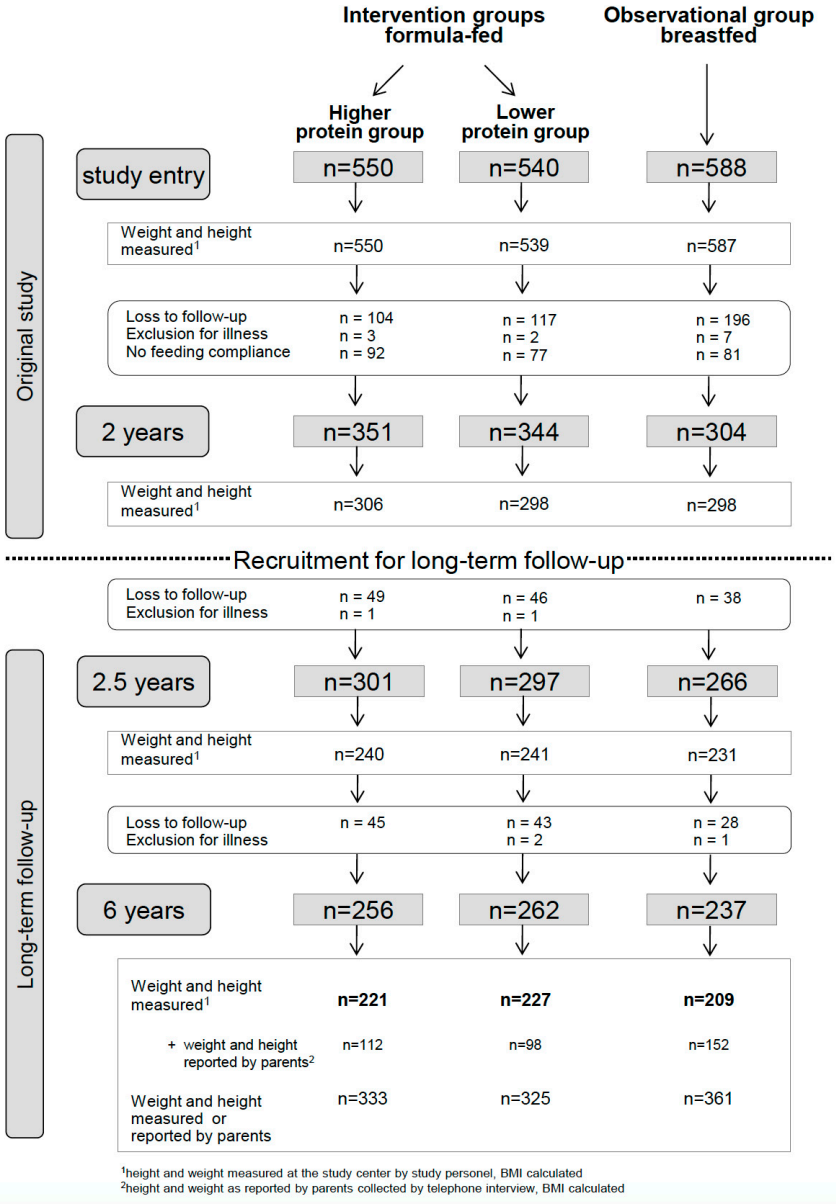


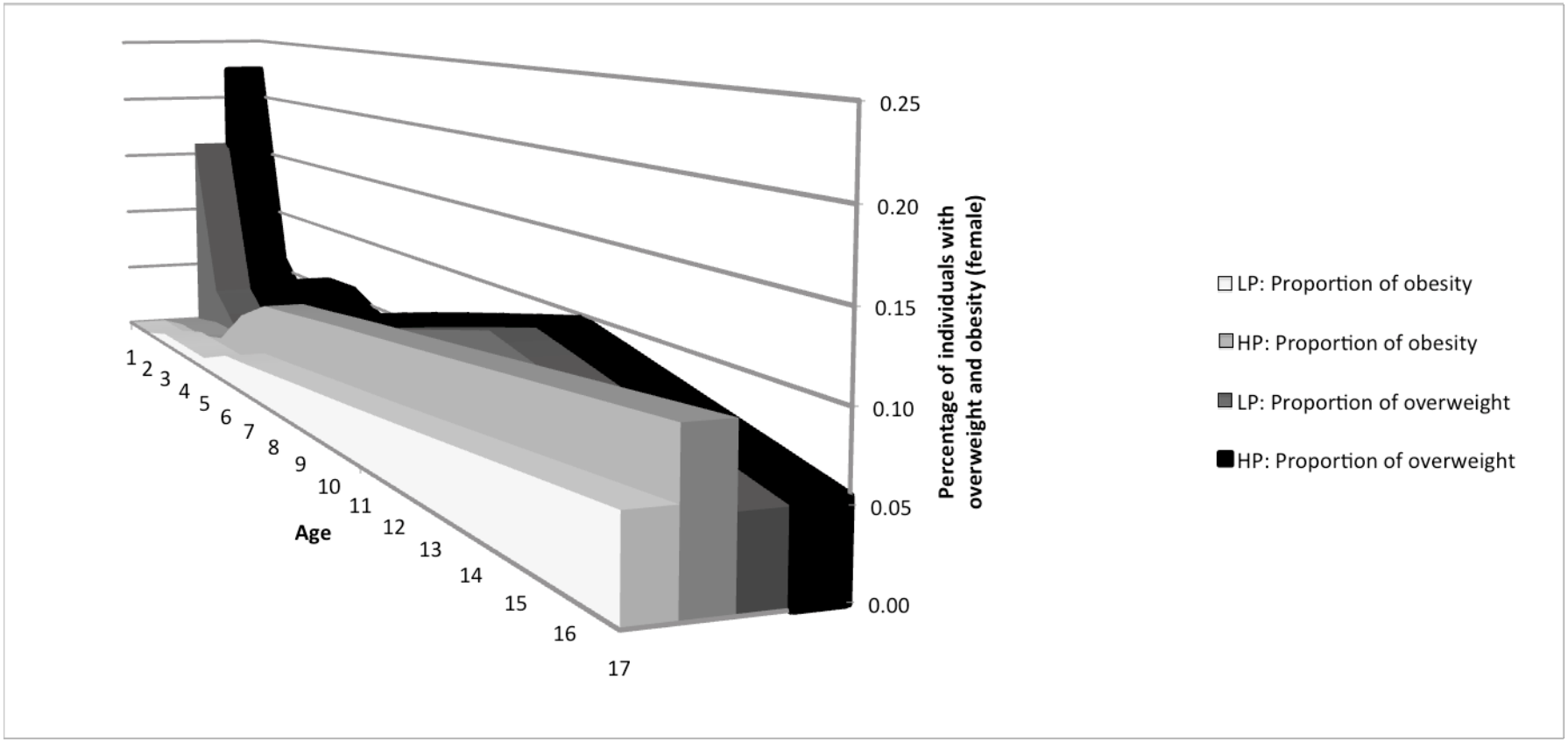
Table S1a: Epidemiological parameter values for Markov model

Model Parameter	Parameter Value	Range used for Univariate Sensitivity Analysis	Source
I. Transition Probabilities			
Normal weight to Overweight			
Cycle:	male female		
1	0.02 0.01		
10	0.00 0.00		
20	0.03 0.01		
30	0.03 0.01		
40	0.02 0.02		
50	0.02 0.03		
60	0.00 0.01		
70	0.00 0.00		
80	0.00 0.00		
90	0.00 0.00		
Overweight to Obese			
Cycle:	male female		
1	0.21 0.12		
10	0.03 0.04		
20	0.02 0.03		
30	0.01 0.02		
40	0.01 0.01		
50	0.01 0.02		
60	0.00 0.00		
70	0.00 0.00		
80	0.00 0.00		
90	0.00 0.00		
Overweight to Normal weight		(None)	We estimated transition probabilities by following Sonntag et al. (2015).
Cycle:	male female		
1	0.00 0.00		
10	0.03 0.05		
20	0.00 0.00		
30	0.00 0.00		
40	0.00 0.00		
50	0.00 0.00		
60	0.00 0.00		
70	0.01 0.01		
80	0.00 0.00		
90	0.00 0.00		
Obese to Overweight			
Cycle:	male female		
1	0.00 0.00		
10	0.00 0.00		
20	0.00 0.00		
30	0.00 0.00		
40	0.00 0.00		
50	0.00 0.00		
60	0.01 0.00		
70	0.02 0.02		
80	0.03 0.03		
90	0.05 0.04		
II. Relative Risk			
of mortality if obese in childhood			
male	1.10	(None)	Engeland et al. (2004)
female	1.30		
of mortality if overweight in adulthood	*agegroup 25-59:* 0.83 *agegroup 60-69:* 0.95 *agegroup >70:* 0.91	(None)	Flegal et al. (2005)
of mortality if obese in adulthood	*agegroup 25-59:* 1.36 *agegroup 60-69:* 1.26 *agegroup >70:* 1.07		

Table S1b: Cost data for Markov model

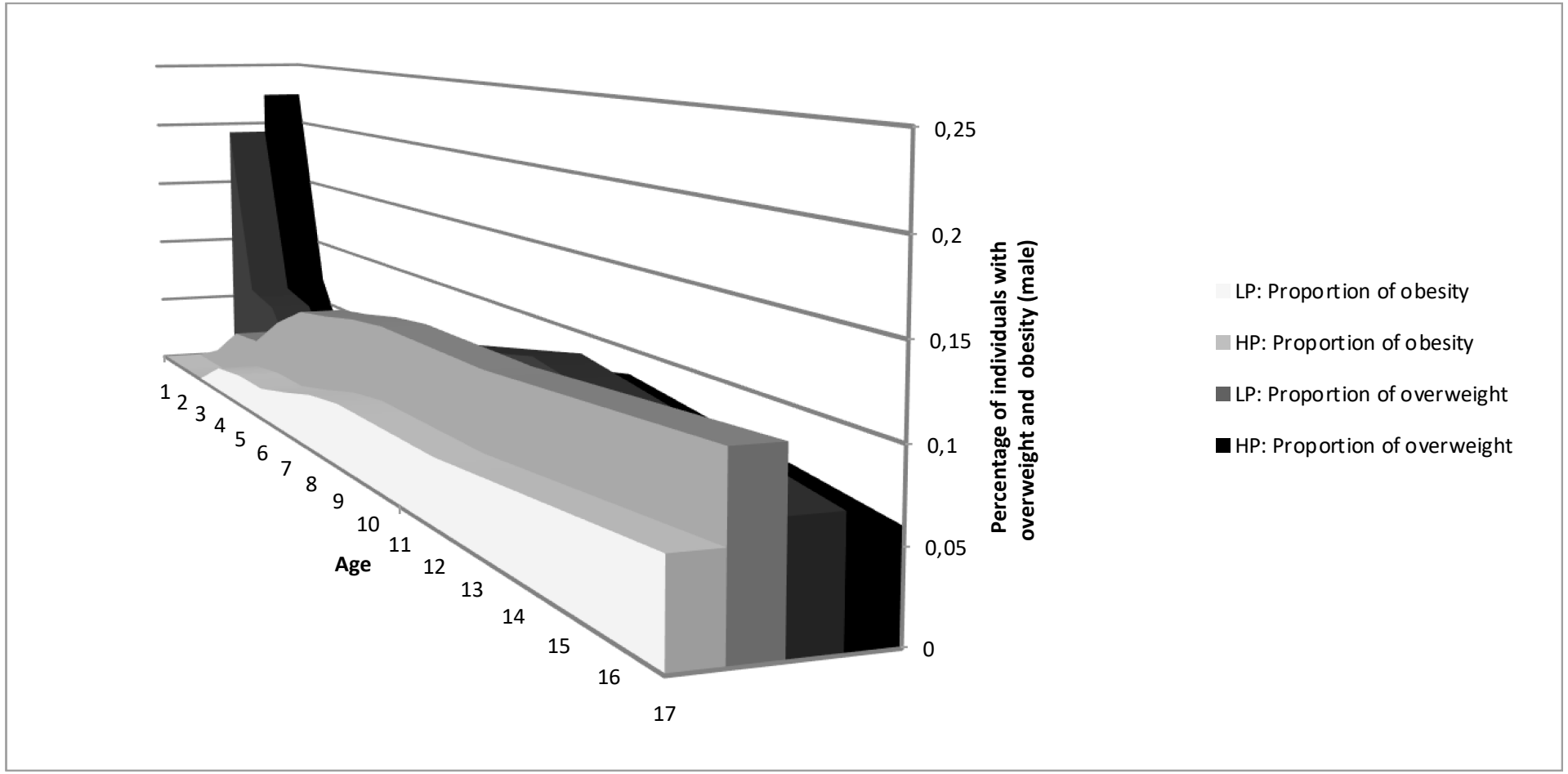
Model Parameter	Parameter Value			Range used for univariate Sensitivity Analysis	Source
III. Costs per capita, sex and BMI					
	BMI<25	25<BMI<30	BMI>30		
Male:					
15-20 years	0 €	2 €	54 €		
20-25 years	0 €	6 €	111 €		
25-30 years	0 €	7 €	85 €		
30-35 years	0 €	11 €	112 €		
35-40 years	0 €	17 €	140 €		
40-45 years	0 €	31 €	216 €		
45-50 years	0 €	52 €	307 €		
50-55 years	0 €	83 €	459 €		
55-60 years	0 €	62 €	344 €		
60-65 years	0 €	86 €	406 €		
65-70 years	0 €	113 €	488 €		
70-75 years	0 €	139 €	591 €		
75-80 years	0 €	165 €	672 €		
80-85 years	0 €	191 €	710 €		
85-90 years	0 €	192 €	649 €		
> 90 years	0 €	134 €	461 €	costs are increased by a factor of 2.1 at maximum	Konnopka et al. (2010)
Female:					
15-20 years	0 €	2 €	183 €		
20-25 years	0 €	8 €	284 €		
25-30 years	0 €	11 €	288 €		
30-35 years	0 €	17 €	311 €		
35-40 years	0 €	24 €	280 €		
40-45 years	0 €	42 €	281 €		
45-50 years	0 €	72 €	319 €		
50-55 years	0 €	114 €	426 €		
55-60 years	0 €	89 €	313 €		
60-65 years	0 €	126 €	334 €		
65-70 years	0 €	160 €	385 €		
70-75 years	0 €	215 €	456 €		
75-80 years	0 €	298 €	602 €		
80-85 years	0 €	346 €	655 €		
85-90 years	0 €	327 €	622 €		
> 90 years	0 €	218 €	440 €		

Figure S2a: Lifetime development of overweight and obese health states in the female population of Germany, stratified by infant feeding strategy



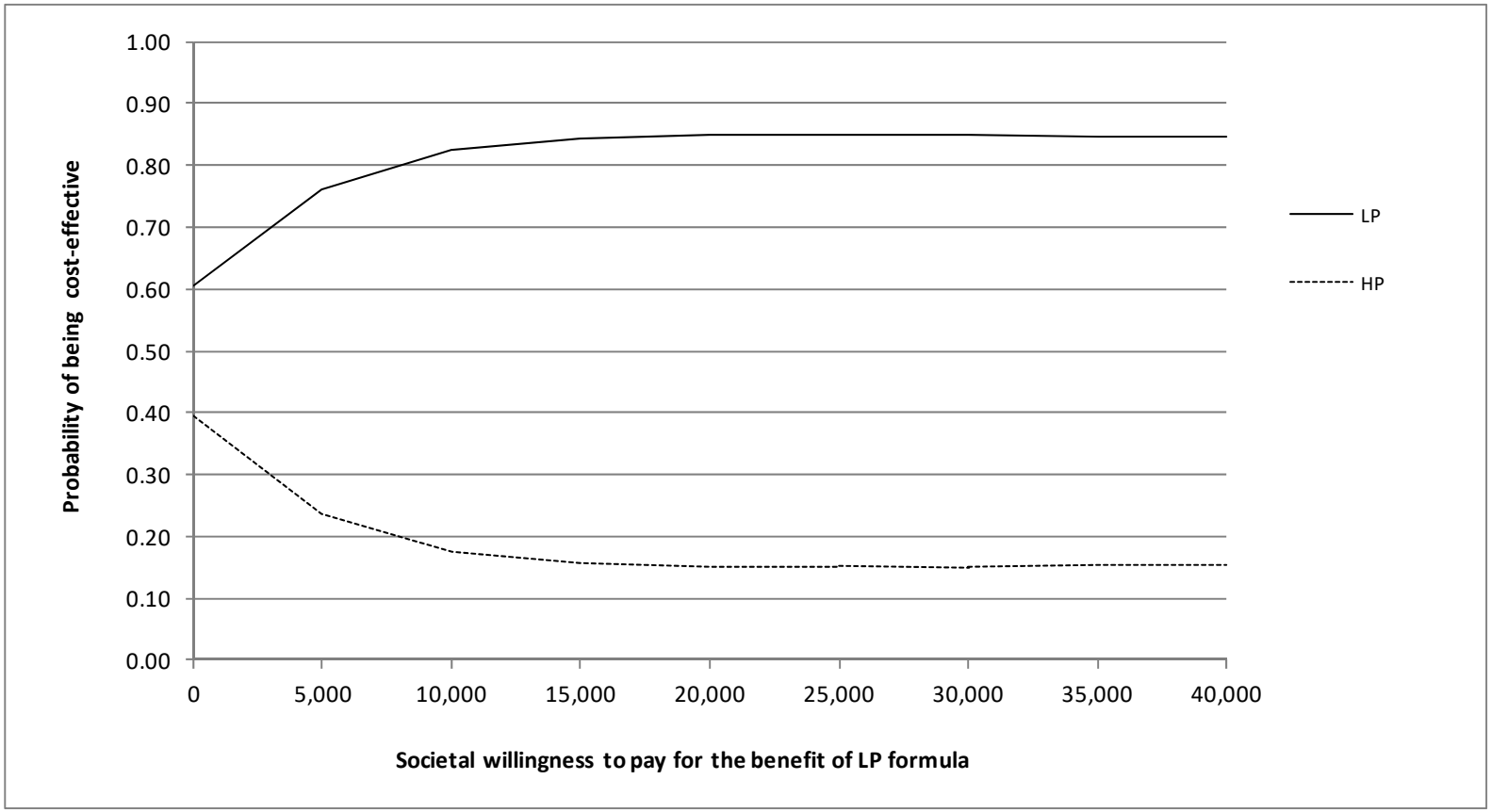
This figure presents the development of overweight and obesity health states for the female population in Germany for both infant feeding types.

Figure S2b: Lifetime development of overweight and obese health states in the male population of Germany, stratified by infant feeding strategy



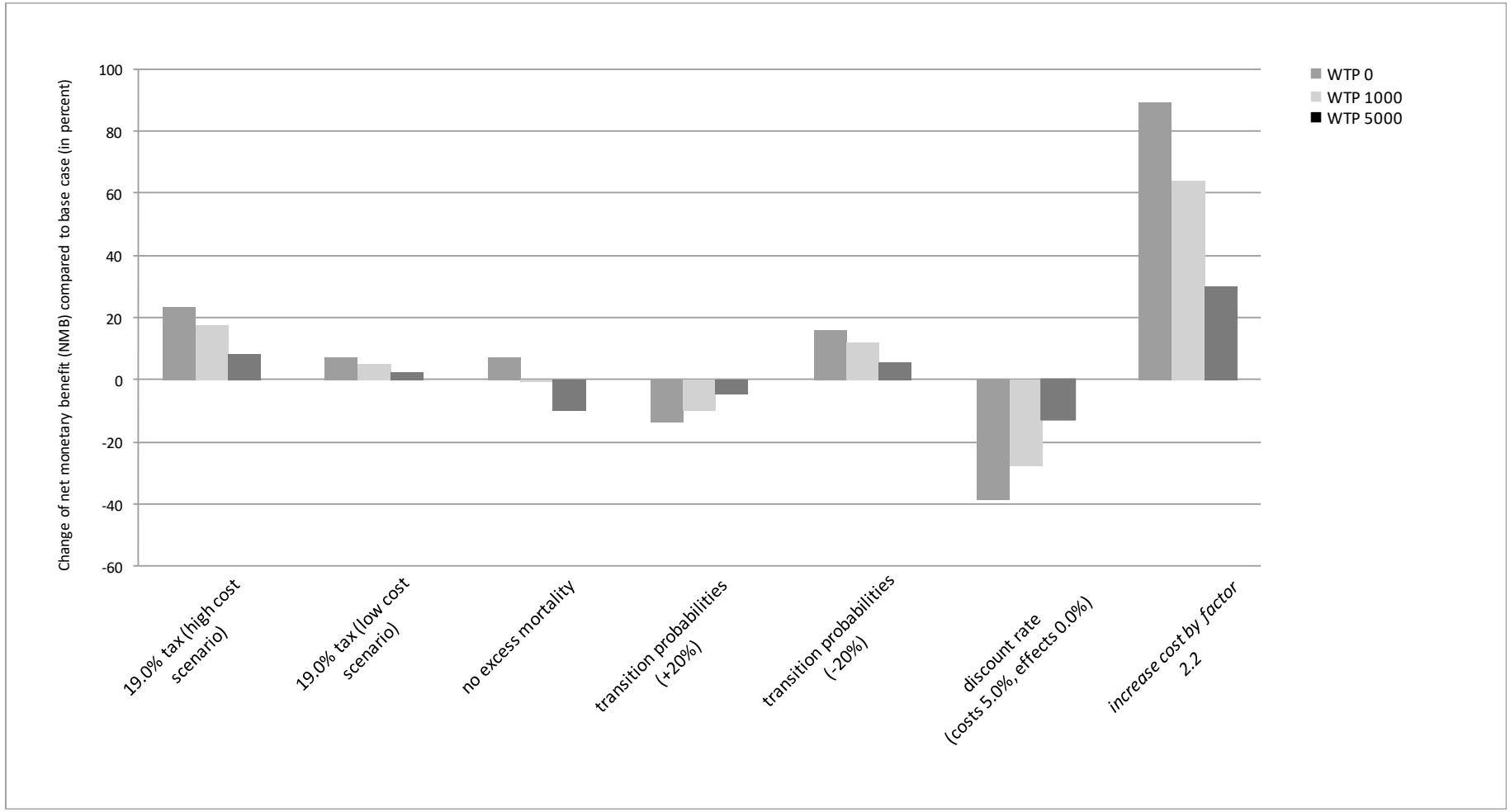
This figure presents the development of overweight and obesity health states for the male population in Germany for both infant feeding types.

Figure S3a: Cost-effectiveness acceptability curves of LP and HP content formula



The cost-effectiveness acceptability curves (CEAC) show the probability that the LP formula is cost-effective compared with the HP formula for a range of maximum monetary values that the society might be willing to pay for a particular unit change in BMI.

Figure S3b: Results from univariate sensitivity analyses



Univariate sensitivity analyses included evaluating the impact of (i) variability in parameter estimates of transition probabilities (varied by 20%), (ii) no excess mortality in adulthood for individuals who were obese during childhood, (iii) discount rates for cost data (0 and 5%), (iv) different excess cost estimates using a recently published bottom-up cost-of-illness study for Germany (Wolfenstetter et al. 2012), (v) taxing HP content formula by 19% according to cost of formula delivery (high- or low-cost scenario).
Base case WTP=0: €750.16, WTP=1,000: €1,047.72, WTP=5,000: €2,237.93 (NMB) (see Figure 4).