Supplementary Table 1: Variables associated with cost-effectiveness of bariatric surgery.

Variable	Incorporated into model as:
Favours bariatric surgery	
Reduced incidence of disease	Relative risks associated with bariatric surgery from CPRD and SOS (5-7) (Table 1)
Reduced mortality	Relative risks associated with bariatric surgery from previous reports (8) (Table 1)
Transient reduction in depression	Relative risks associated with bariatric surgery from CPRD (20) (Table 1)
Greater utility associated with lower morbidity	Utility values for each model state from previous reports (22) (Supplementary Table 3)
Increase in utility associated with BMI reduction	Time-dependent utility increment associated with surgery (25,26) (Table 1)
Reduced costs of health care utilisation resulting from lower morbidity	Costs of each state estimated by year of age and gender from CPRD data (Supplementary Table 4)
Favours no surgery	
Cost of surgery	Costs of surgery estimated from NHS tariffs (Table 1)
Operative mortality	Mortality from NBSR report (14) (Table 1)
Complications following surgery	Costs of complications including leaks and re-operations (Table 1)
Increased health care costs from greater longevity	Costs of each state estimated by year of age from CPRD data (Supplementary Table 4)

CPRD, Clinical Practice Research Datalink; NBSR, National Bariatric Surgical Register; NHS, National Health Service; SOS, Swedish Obese Subjects study

Supplementary Table 2. Regression coefficients associating body mass index category with incidence and mortality. ('Overweight' was employed as reference BMI category; 'At Risk' was employed as reference morbidity category. Please see text for further explanation)

		Gender	Age	Age^2	Normal weight	Simple Obesity	Severe obesity	Morbid obesity	Constant	Gamma
Incidence of morbidity										
Diabetes mellitus		-0.34	0.05	-0.00	-0.86	0.78	1.32	2.00	-6.74	-0.10
CHD		-0.70	0.22	-0.00	-0.25	0.10	0.08	0.26	-12.0	-0.06
Stroke		-0.40	0.09	-0.00	-0.10	-0.01	0.03	0.25	-11.0	0.14
Cancer	Male	-	0.19	-0.00	0.12	-0.14	-0.34	-0.25	-12.4	0.18
Cancer	Female	-	0.15	-0.00	0.12	-0.05	-0.07	0.11	-10.8	0.15
Mortality[a]		-0.31	0.03	0.00	0.37	-0.01	0.16	0.74	-10.4	0.30

[a]in the analysis of mortality, coefficients for comorbidity were DM 0.44; CHD 0.24; Stroke 0.83; Cancer 1.65

Supplementary Table 3: Unit Costs of health care utilisation. Source: Reference 19.

Type of care	Unit Cost 2013	Comment
GP consultations	£45	Includes emergency consultations
Telephone consultations	£27	
Home visits	£114	
Day Case	£697	
Emergency referral	£135	From outpatient
Inpatient	£1,400	Weighted average of all stays
Outpatient	£135	Weighted average of all outpatient

Supplementary Table 4. Utility values used in model. Source: reference 24.

Condition		Utility
Mean adult utility at age 43		0.828
Age (per year increase)		-0.00029
Diabetes mellitus		-0.0714
Coronary heart disease		-0.0671
Stroke		-0.1171
Cancer		-0.04347
Depression		-0.1123
BMI category (Kg/m^2)	30-34	-0.085
	35-39	-0.17
	40+	-0.255