



Supplementary Figure S6. 2D contour plot showing estimated relative chance of pregnancy by BMI and body weight (A) and comparison of chance of pregnancy before and after 10% weight loss by baseline BMI (B). Analysis performed using data from the Study 2 cohort (N = 7593), which was sampled to evaluate the association between weight loss and chance of pregnancy. The contour plot (A) illustrates combinations of baseline BMI (x-axis) and body weight change from baseline (y-axis) that share equal chances of pregnancy, as shown by the contour lines on the graph and labelled chance of pregnancy, relative to stable weight women with a baseline BMI of 35 kg/m², as estimated by the Cox proportional hazard model used to evaluate the association between change in body weight and chance of pregnancy. Weight change was modelled as a time-varying covariate. Age was modelled as a categorical variable based on four age categories with the second range (age 25–29 years) as the reference category. An interaction term between the weight change and the baseline BMI was also included. The points highlighted illustrate that a woman with 10% weight loss from a baseline BMI of 45 kg/m² (i.e. to 40.5 kg/m²) has the same chance of pregnancy as a woman with baseline BMI of 35 kg/m² and stable weight (no weight change), and that a woman with baseline BMI of 40.5 kg/m² and stable weight has a 30% lower chance of pregnancy. The plot presented in panel B is a different representation of the data in Panel A. Panel B compares the chance of pregnancy by baseline BMI (as estimated by the Cox proportional hazard model with 95% CIs illustrated by shaded areas) before weight loss (red line) and after 10% weight loss (blue line) with the chance of pregnancy for a woman with 10% lower baseline BMI and stable weight (reference, grey line).