# Appendix K. Unadjusted Estimated Rates of Healthcare Utilization

95% UCL/LCL indicates pointwise 95% upper and lower confidence limits for the mean rate of utilization

The models are formulated as this, with [Int] corresponding a binary flag, 1 for patients in CRS intervention clinics and 0 for controls, Time is in months, ranging from -12 to 12, with 0 corresponding to the date of the first CRS visit, or the matched date for the controls. Three linear splines were used to flexibly model the change in rates over time: $TS_1 = \min(\text{time}, 0)$, $TS_2 = \max(\min(\text{time}-3, 3), 0)$, $TS_3 = \max(\min(\text{time}-6, 6), 0)$. As we expect odd behavior at t=0, we include parameters to directly estimate the mean at that timepoint for both CRS patients and controls.

$$\beta_0 + \beta_1 TS_1 + \beta_2 TS_2 + \beta_3 TS_3 + \beta_4 [\text{Int}]TS_1 + \beta_5 [\text{Int}]TS_2 + \beta_6 [\text{Int}]TS_3 + \beta_7 [I_{\text{time}=0}]$$
$$+ \beta_8 [\text{Int}][I_{\text{time}=0}]$$

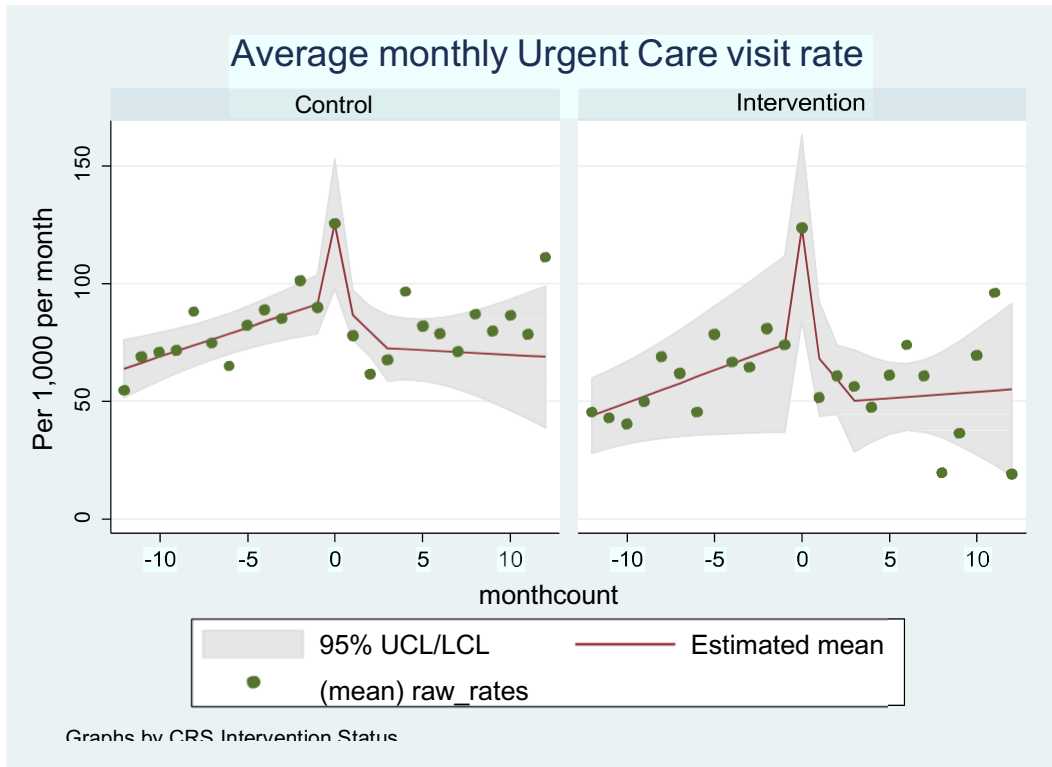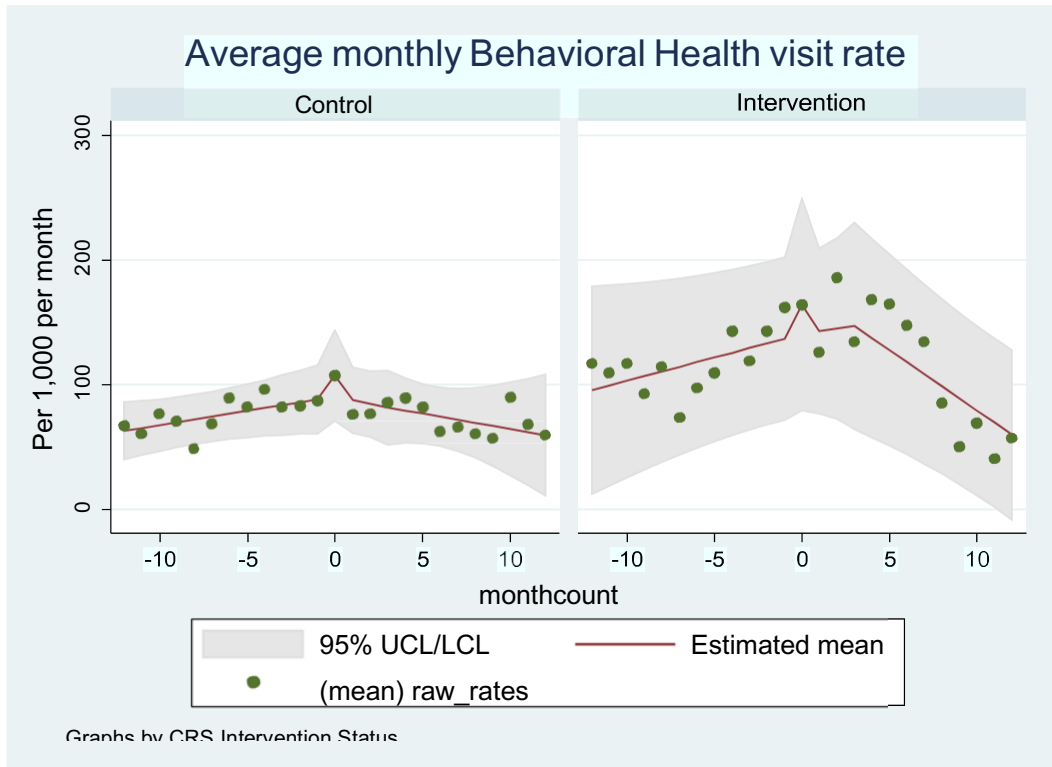Tests for pre-intervention equivalence of change are Wald tests for $\beta_1 = \beta_4$

Average monthly Primary Care visit rate
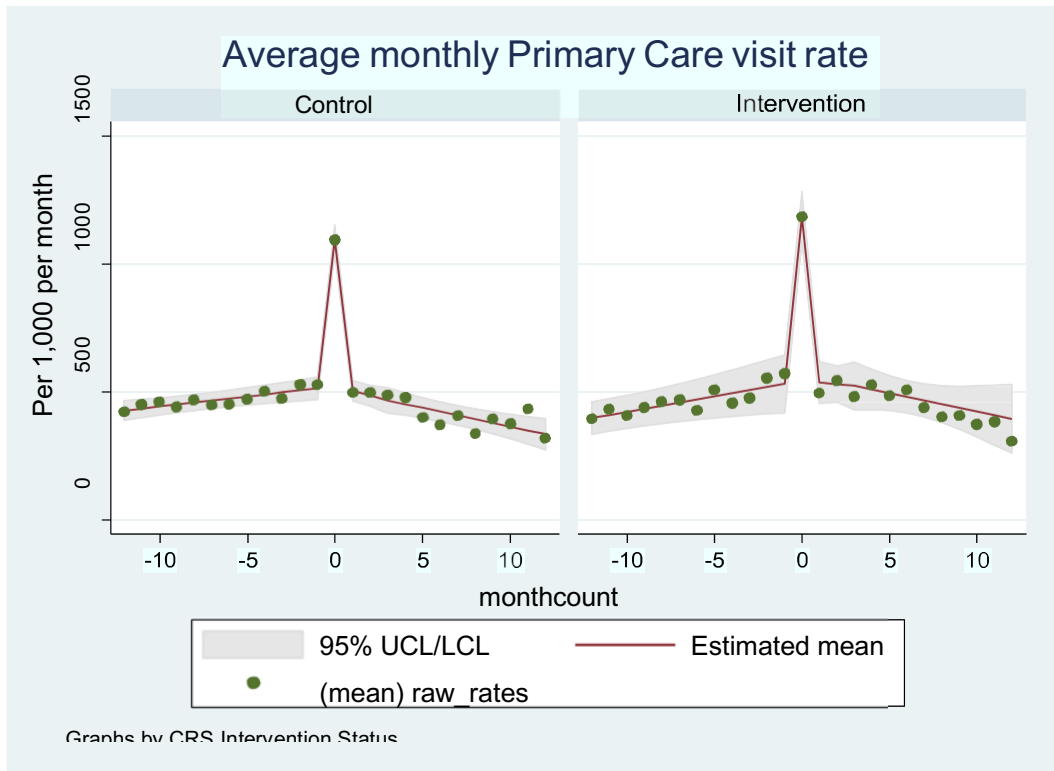
Test Test for pre-intervention equivalent change over time: p=0.435
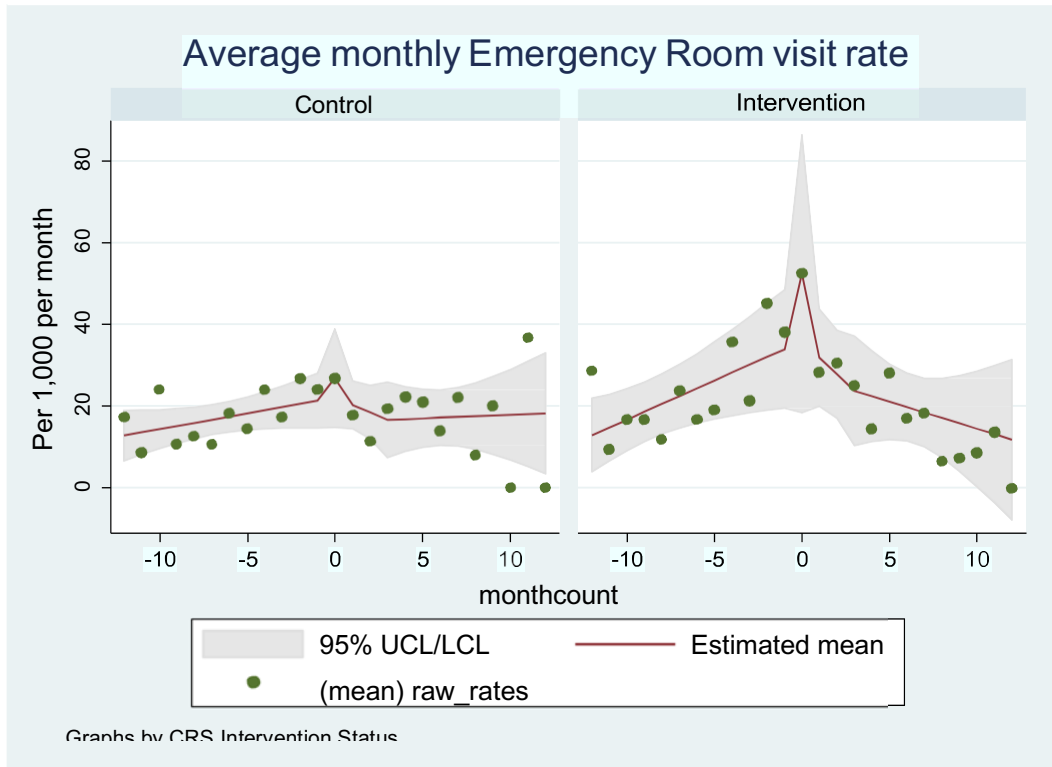
Average monthly Emergency Room visit rate

Test for pre-intervention equivalent change over time: p=0.237

Average monthly Urgent Care visit rate

Test for pre-intervention equivalent change over time: p=0.877

Average monthly Behavioral Health visit rate

Test for pre-intervention equivalent change over time: p=0.608

Average monthly Face-to-Face Primary Care visit rate

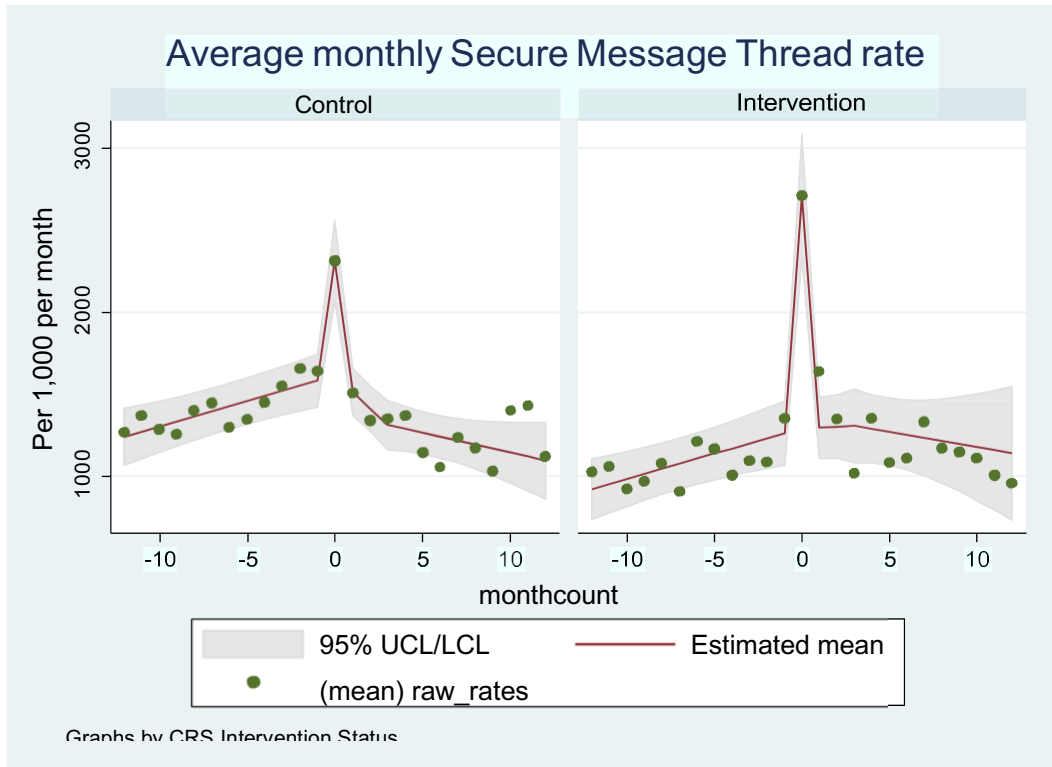Graphs by CRS Intervention Status

Test for pre-intervention equivalent change over time: p=0.484

Average monthly Outpatient visit rate

Test for pre-intervention equivalent change over time: p=0.573

Average monthly Consulting Nurse visit rate

Test for pre-intervention equivalent change over time: p=0.916

Average monthly Secure Message rate

Test for pre-intervention equivalent change over time: p=0.989

Average monthly Secure Message Thread rate

Test for pre-intervention equivalent change over time: p=0.994

Average monthly Phone visit rate
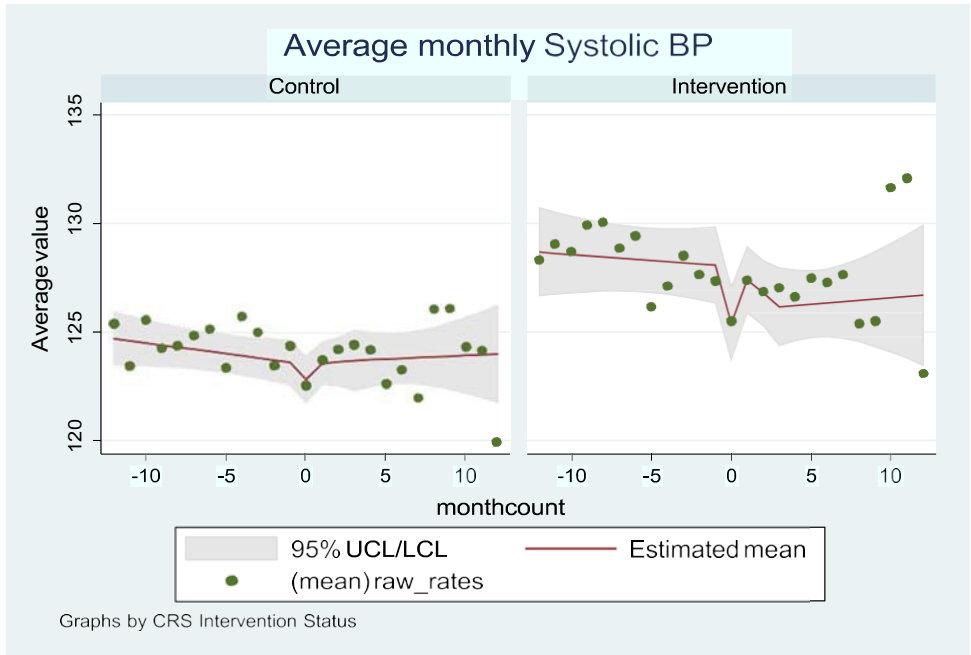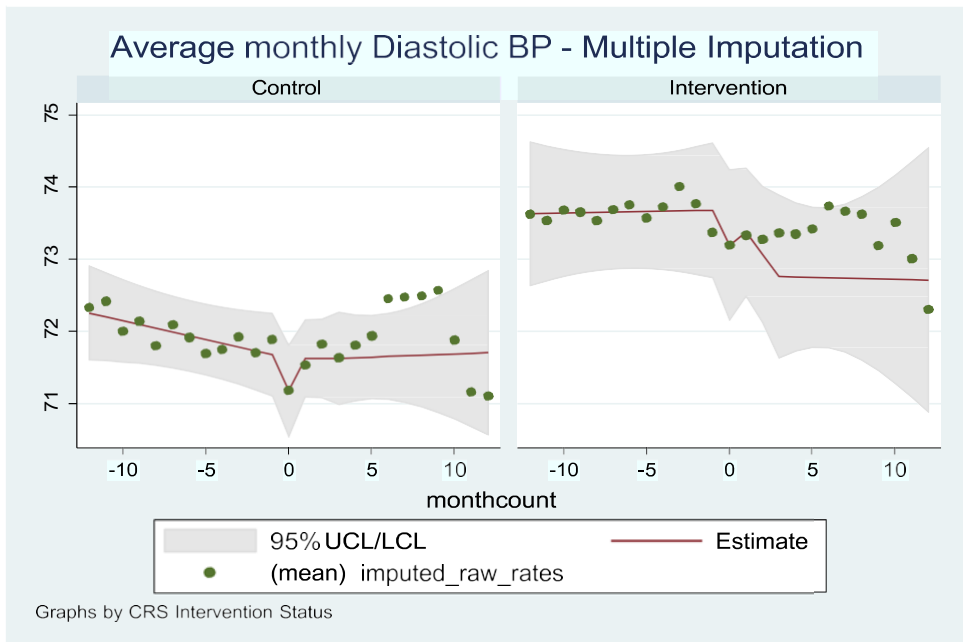
Test for pre-intervention equivalent change over time: p=0.101

Average monthly Systolic BP

Average monthly Systolic BP - Multiple Imputation
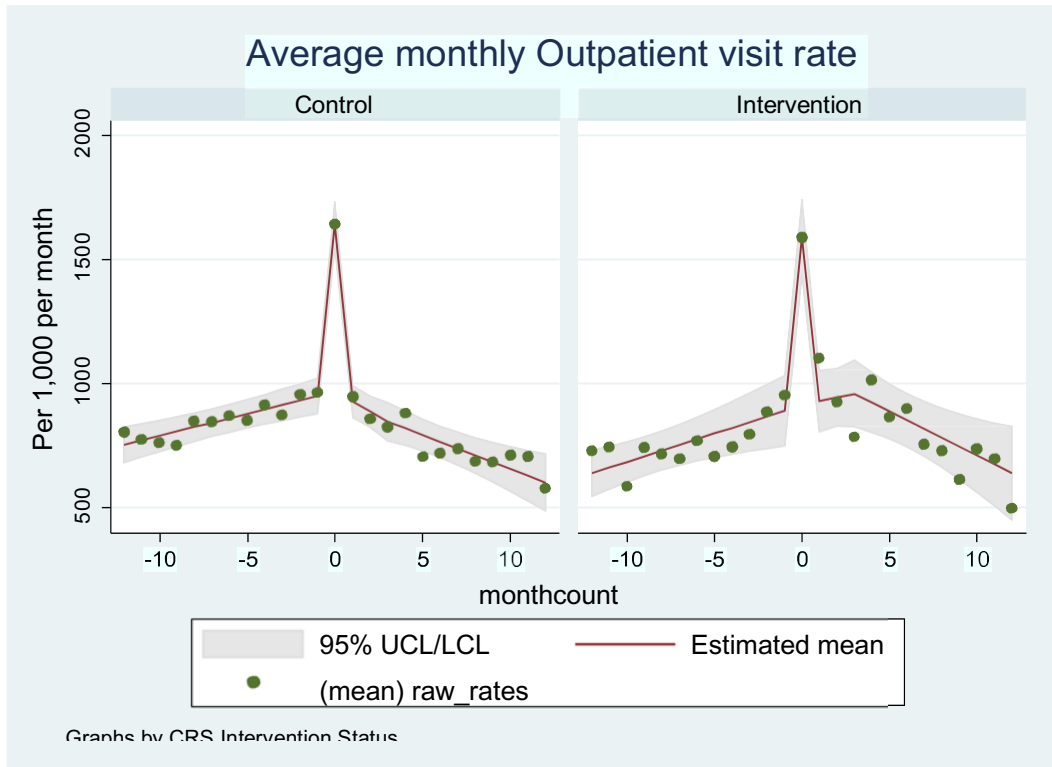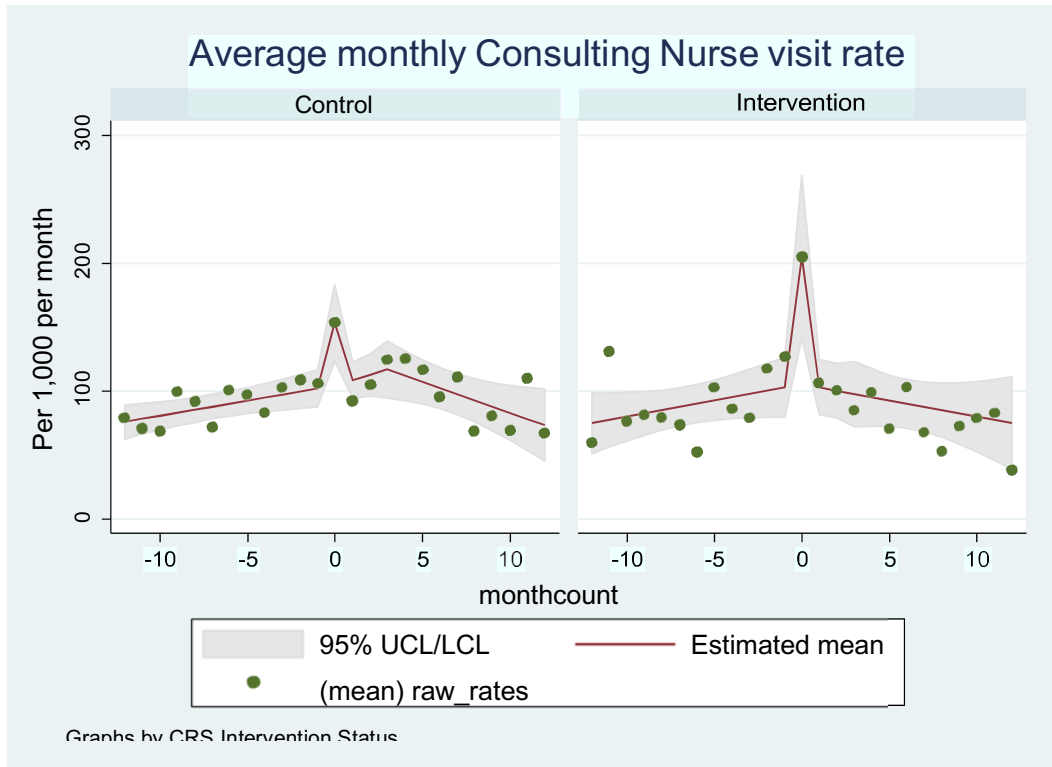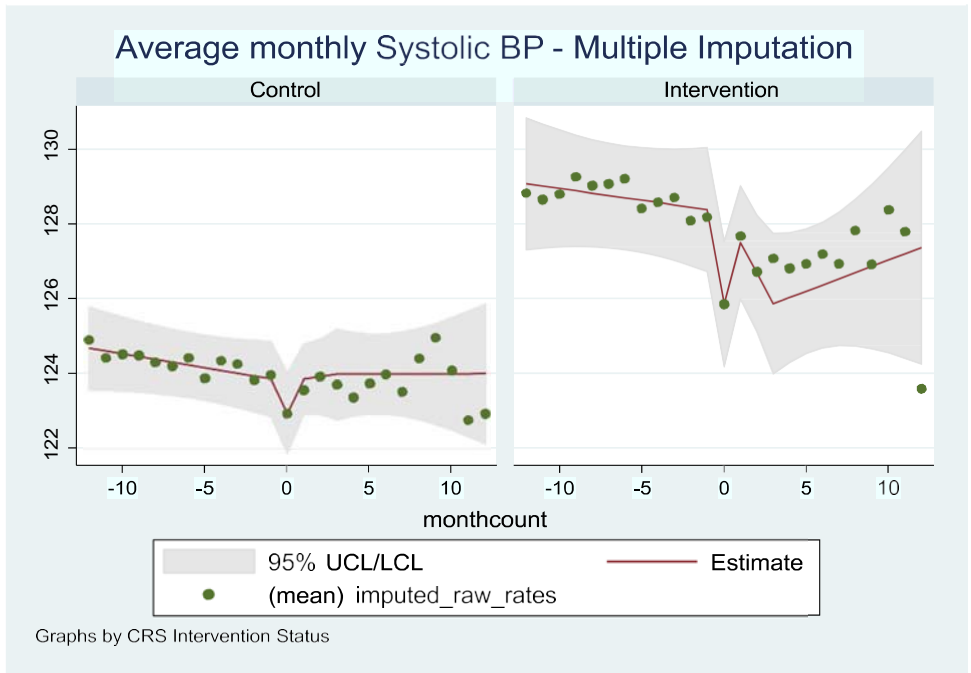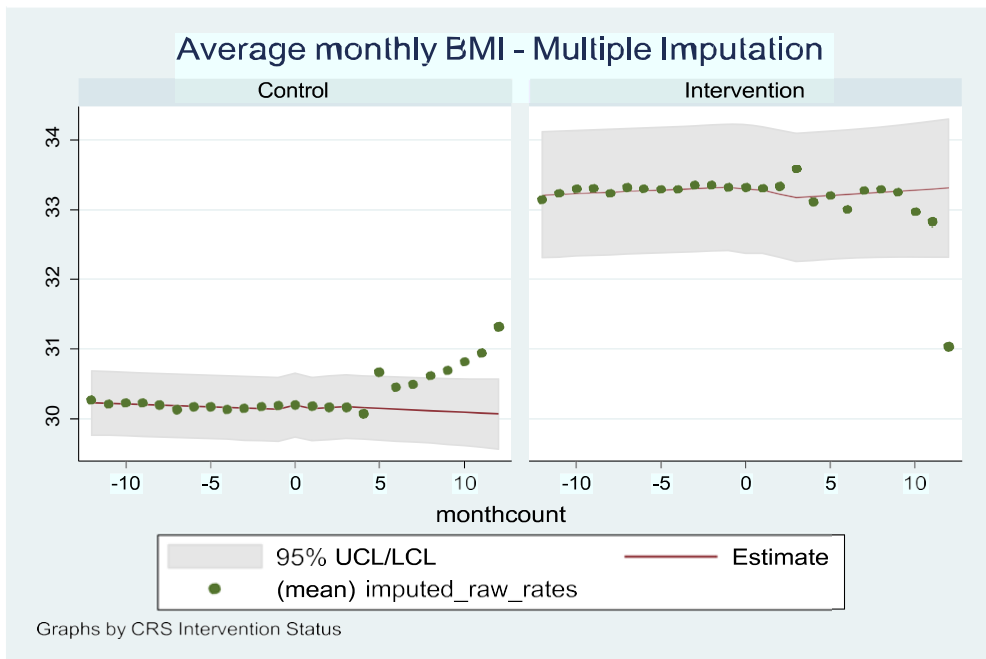
Test for pre-intervention equivalent change over time: p=0.913
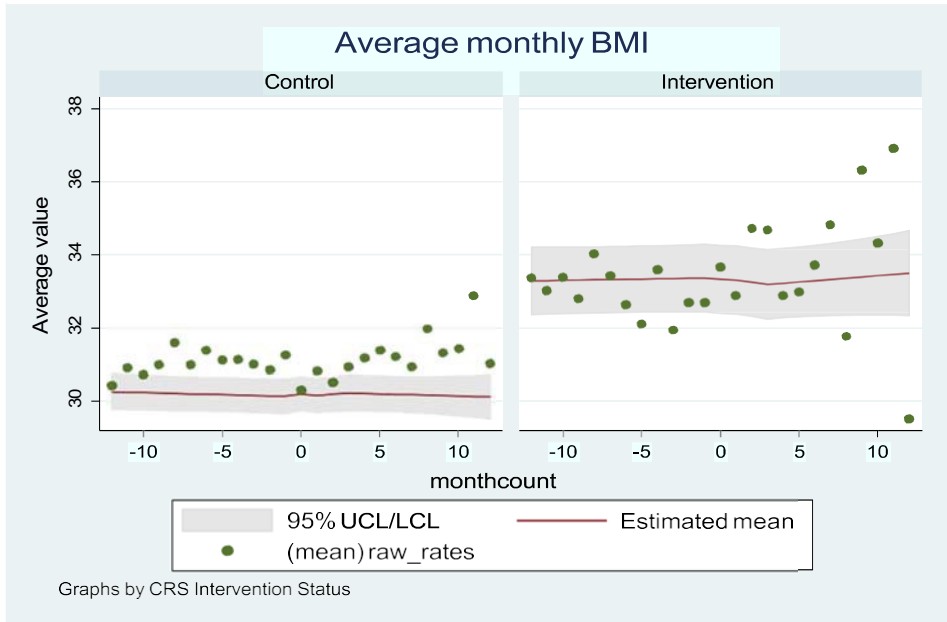
66% of Systolic BP monthly measures were missing.

Average monthly Diastolic BP


Average monthly Diastolic BP - Multiple Imputation
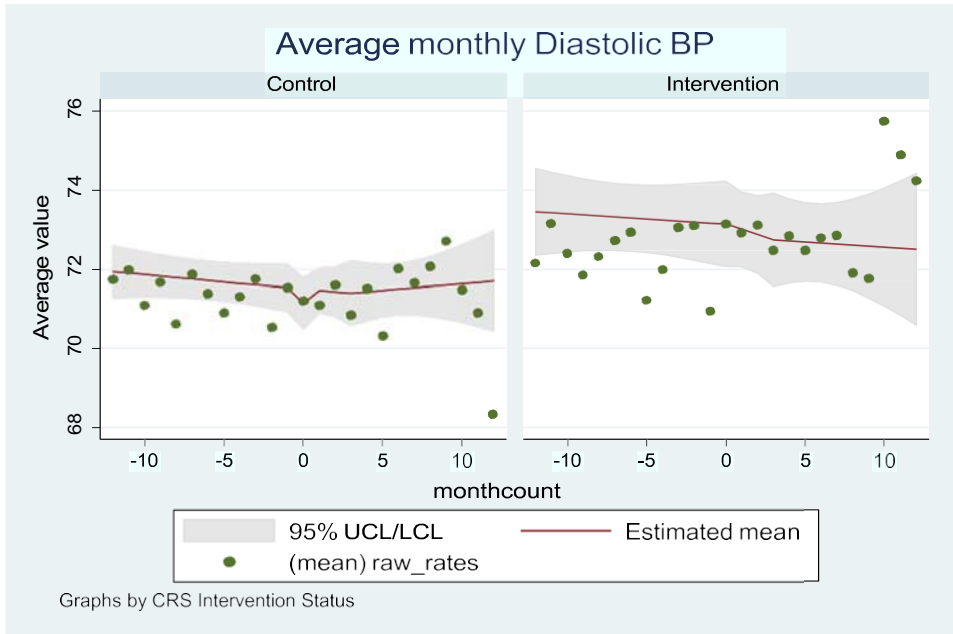
Test for pre-intervention equivalent change over time: p=0.367

66% of Diastolic BP monthly measures were missing.

Average monthly BMI

Average monthly BMI - Multiple Imputation

Test for pre-intervention equivalent change over time: p=0.130

66% of BMI monthly measures were missing.

Average monthly HbA1c

Average monthly HbA1c - Multiple Imputation
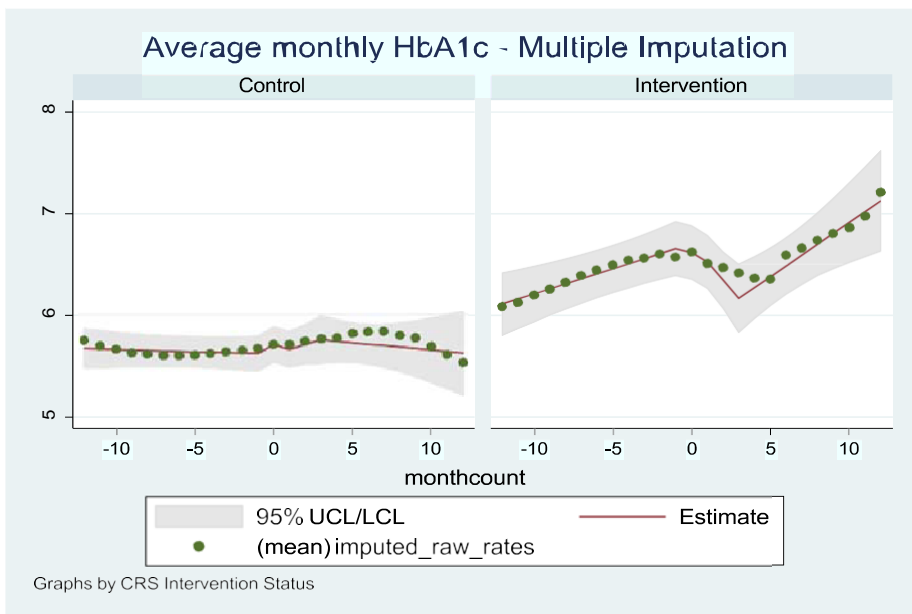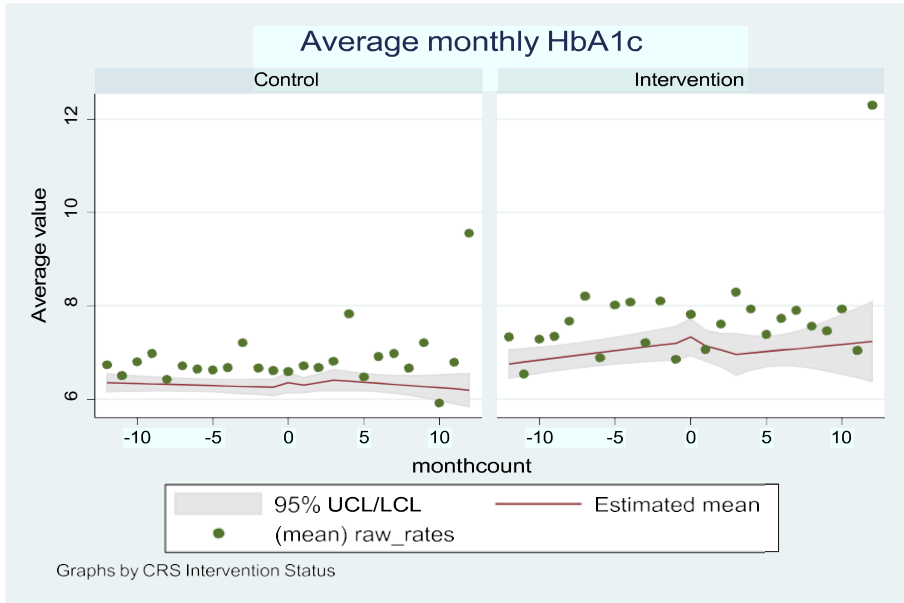
Test for pre-intervention equivalent change over time: p=0.003

95% of HbA1c monthly measures were missing.

Average monthly PHQ

Average monthly PHQ - Multiple Imputation
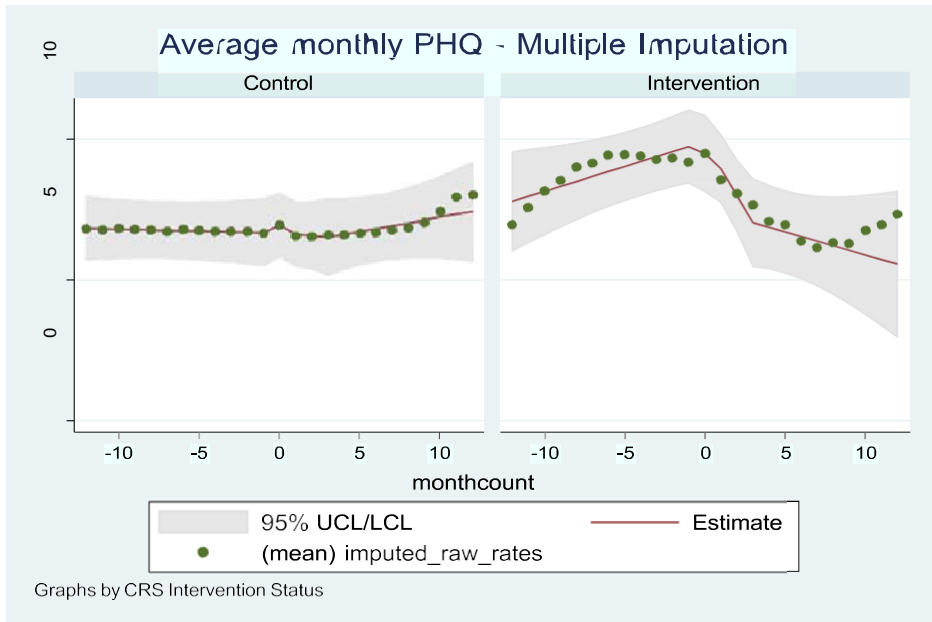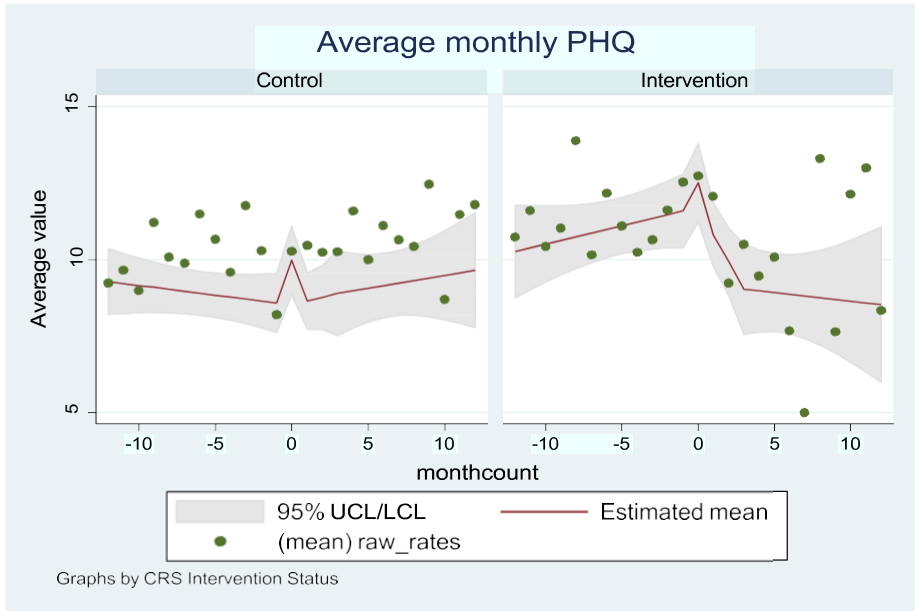
Test for pre-intervention equivalent change over time: p=0.072

95% of PHQ monthly measures were missing.