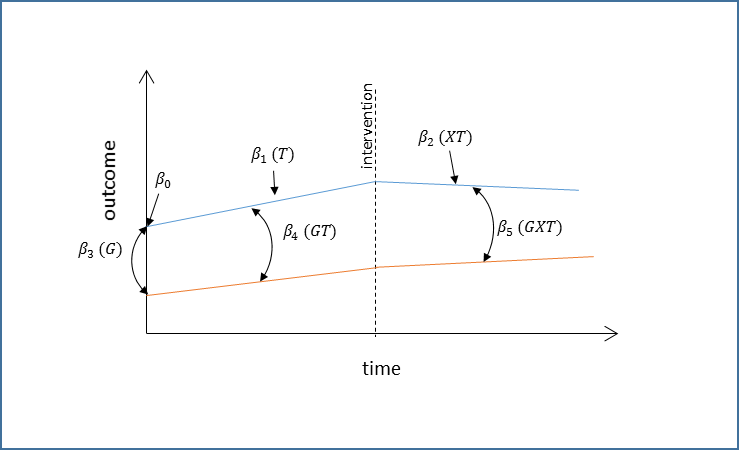
S1 Text: Controlled interrupted time series model



Intervention group in blue, control group in red. T = time since the start of the study, X = intervention (pre-intervention period = 0, post-intervention period = 1), G = group (control group = 0, intervention group = 1). β0 and β3 relate to intercepts, β1-2 and β4-5 relate to slopes. Curved arrows represent differences between the intervention group and control group. (Adapted from Linden and Adams 2011)(1)

Segmented regression equation for slope change with a control series:

is the outcome variable at time , is a variable representing the time since the start of the study and is a dummy variable indicating the pre- ( = 0) or post-intervention period ( = 1). represents the intervention group () or control group (). represents the intercept at =0, is the underlying pre-intervention trend (slope), is the slope change following the intervention, represents the difference in intercept between the two groups at =0, represents the slope difference between the intervention and control group in the pre-intervention period, represents the difference between the change in slope in the control and intervention group associated with the intervention. Therefore is the parameter of interest for the measure of effect.

# References

1. Linden A, Adams JL. Applying a propensity score-based weighting model to interrupted time series data: improving causal inference in programme evaluation. J Eval Clin Pract. 2011;17(6):1231-8.