**Sample size considerations**

The primary outcome variable of the 2014/15 SALSA program survey is the within subject change in frequency of eating breakfast from pre to post SALSA intervention. From the data collected in the SALSA intervention arm in 2012, we expect approximately 15 students per class to complete both the pre and post SALSA surveys and at least 5 classes to be available for assessment in each school. Furthermore we estimate the within school cluster correlation coefficient (WCC) for the change in breakfast frequency from pre to post SALSA to be 0.011.

We intend to select 5 classes at random from each school for pre/post SALSA assessment. This is expected to yield approximately 75 subjects with complete pre/post SALSA assessment at each school. The sample size calculations in the following table assume a 5% significance level, a 2-sided test of the within subject change in frequency of eating breakfast from pre to post SALSA, and a WCC of 0.011. The highlighted number of schools has 80% power to detect the effect size shown where the effect size is the ratio of the mean within subject change to the standard deviation of this change.

|  |  |
| --- | --- |
| **Assumptions: 5% significance level, 2-tailed test of change from pre to post**  | **Effect size** |
| **0.1** | **0.125** | **0.15** |
| Number of subjects if independent | 787 | 505 | 351 |
|   |  |  |   |
| Number subjects accounting for school WCC of 0.011 and 75/school | 1428 | 916 | 637 |
|   |  |  |   |
| **Number schools required to detect effect size with 80% power** | **19** | **13** | **9** |
|   |   |   |   |