Frequently Asked Questions - about our research

In many of our evaluations to date we have used logistic regressions to help us to understand what our programmes have achieved. This method of analysis produces results in the form of 'odds ratios' – which are expressed in terms of whether a group are 'more or less likely' to do something compared to another group.

What are odds ratios?

Odds ratios are frequently used in the health world to express the relative chance of an outcome happening under two different conditions. Odds ratios come from logistic regressions: a method of statistical analysis used when variables are 'binary' (e.g. a yes/no answer). In health research this is often useful because researchers want to compare the outcomes between two distinct groups of people (e.g. smokers vs. non-smokers).

Why did we use odds ratios?

For people evaluating health communication interventions, they are a useful tool because we can compare people who were exposed to our media intervention with people who weren't – helping us to understand the impact of our intervention.

Crucially, regressions allow us to control for the influence of potential confounders – other factors measured that may influence outcomes, like age, income and education.

In our work we want to look at whether certain practices are more likely for people exposed to our health programming. However, we know for example that in some areas our audiences often have higher levels of education and can be wealthier than our non-audiences. We also know that people with higher levels of education, and higher incomes are more likely to deliver their babies in health facilities.

If we simply compare audiences with non-audiences, it is possible that any difference we see is down to influential factors such as difference in education level, and not our programmes. Regressions help us to compare audiences with non-audiences while taking into account the influence of these potentially 'confounding factors' measured. Thus allowing us to be more confident that there is a relationship between exposure to our programming and differences we see between audiences and non-audiences in areas such as knowledge, and that differences are not as a result of education or income etc.

Multiple regression, and other forms of statistical control, can be seen as a way of improving our inferences (conclusions). While it can't rule out *all* alternative explanations, it is a matter of incremental improvements and is particularly useful when randomisation is challenging (as is often the case when working with media at scale). Other ways to control for confounders include using propensity score matching, and the use of randomised control trials in experimental or real world settings.

What did we control for?

In Bangladesh, we controlled for the influence of age, income, urban/rural location, distance to a health facility, previous experience with child birth- known as 'parity' (for pregnant women), and exposure to another health programme. In Ethiopia, in addition to the above we also controlled for contact with Community Health Workers, whether the respondent was a volunteer with the health worker in Ethiopia's 'Health Development Army', and literacy.

What do the results say about our impact?

Odds ratios are the expression of how likely something is to occur for one group compared to another and produce three types of results:

- Above 1 – this means that people who watched or listened to our health programmes are more likely to do something compared to those who did not watch or listen.
- Below 1 – this means that people who watched or listened to our health programmes are less likely to do something than those who didn't.
- No significant difference – this means that there is no difference between people who watched or listened to our health programmes and those who didn't.

To understand if the result is 'good', ask whether the odds ratio is significant and in the direction that you expect, if so that is a 'good result'. The further the odds ratio from 1, the bigger the difference between the two groups. If you consistently see significant results across a range of practices, for a variety of target groups – that's an even better result.

For example in Bangladesh, analysis of new mother's antenatal care (ANC) attendance shows us that women who watched our health programmes were 2.5 times as likely to have attended ANC for their last pregnancy. This is compared to new mothers who had not watched our programmes – who can be thought of as having a ratio of 1 (or 'even' odds). Our analysis statistically controlled for confounders, so we can be confident that this difference is not because of income, or education, location etc. This gives us more confidence in these results.

For more information about BBC Media Action's approach to research – visit our Research and Insight website