UBC Briefing 7: Evaluating behaviour change interventions using APEASE

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At every stage in the design and implementation process, it is important to *evaluate what is being proposed or delivered*, whether it is a whole intervention or a component of an intervention.

Evaluation involves assessing the intervention on a number of criteria, all of which are important. The table below shows the criteria whose acronym is APEASE.

Acceptability	How far is it acceptable to *all* key stakeholders?
Practicability	Can it be implemented as designed within the intended context, material and human resources?
Effectiveness	How effective and cost-effective is it in achieving desired objectives in the target population?
Affordability	How far can it be afforded when delivered at the scale intended?
Side-effects	How far does it lead to unintended adverse or beneficial outcomes?
Equity	How far does it increase or decrease differences between advantaged and disadvantaged sectors of society?

At the concept stage of intervention development the APEASE criteria can be applied by looking at similar interventions that have been implemented and/or expert review and analysis.

Intervention components, once implemented at least in test form, can be evaluated for effectiveness, side-effects and equity using *a range of study designs,* which include:

1. Randomised controlled trials: Randomly allocate people to receive the intervention or a comparator and then assess them on outcomes of interest.
2. Time series analyses: Collect data on outcomes of interest in individuals, groups or populations repeatedly before and after introduction of the intervention to see whether there is any detectable change.
3. Pre-post analysis: Compare outcomes of interest when measured one or more times before implementation of an intervention with one or more times afterwards.
4. Quasi-experimental design: Compare pre-post or time series in people exposed to the intervention with people not exposed, or exposed to a comparator intervention.
5. Case-control design: Compare outcomes of interest in people who have been exposed to the intervention with those who have not or who have been exposed to a comparator.
6. Factorial experiment: Simultaneously evaluate more than one intervention component by randomly allocating people to each intervention component versus its comparator so that all combinations of components are equally represented.
7. Process evaluation: Use mediation analysis or other techniques to assess how the intervention is working in the given context.

Acceptability and practicability can be assessed using surveys, focus groups and in-depth interviews. Practicability and affordability can be assessed using administrative information.

Key points to note are:

1. Every study design has strengths and limitations and judgement is always required to predict how an intervention will turn out. All such judgements should be accompanied by a subjective rating of confidence in the study data and the reasons for this level of confidence.
2. It is common to focus exclusively on effectiveness as an outcome, but if possible all APEASE criteria should be assessed.
3. The context in which interventions are implemented can have a large effect on its outcomes. Interventions may become more or less effective over time; interventions may be effective in some settings or populations but not others; interventions may act synergistically or cancel each other out.
4. Any one APEASE criterion can make an intervention untenable. For example, it does not matter how effective an intervention is if it is unaffordable or impracticable.
5. APEASE evaluations are just as useful in adjusting and prioritising interventions as in determining whether or not to proceed with a given intervention.

Reading: *Michie S, Atkins L, West R (2014) The Behaviour Change Wheel: A Guide to Developing Interventions. London: Silverback Publishing.* www.behaviourchangewheel.com