# Overview of the Informed Health Choices Key Concepts

## 1. Claims
Claims about effects that are not supported by evidence from fair comparisons are not necessarily wrong, but there is an insufficient basis for believing them.

### 1.1 Assumptions that treatments are safe or effective can be misleading.
Do not assume that
- a) treatments are safe,
- b) treatments have large, dramatic effects,
- c) treatment effects are certain,
- d) it is possible to know who will benefit and who will be harmed, or
- e) comparisons are not needed.

### 1.2 Seemingly logical assumptions about research can be misleading.
Do not assume that
- a) a plausible explanation is sufficient,
- b) association is the same as causation,
- c) more data is better data,
- d) a single study is sufficient, or
- e) fair comparisons are not applicable in practice.

### 1.3 Seemingly logical assumptions about treatments can be misleading.
Do not assume that
- a) treatment is needed,
- b) more treatment is better,
- c) a treatment is helpful or safe based on how widely used it is or has been,
- d) a treatment is better based on how new or technologically impressive it is, or
- e) earlier detection of ‘disease’ is better.

### 1.4 Trust based on the source of a claim alone can be misleading.
Do not assume that
- a) personal experiences alone are sufficient,
- b) your beliefs are correct,
- c) opinions alone are sufficient,
- d) peer review and publication is sufficient, or
- e) there are no competing interests.

## 2. Comparisons
To identify treatment effects, studies should make fair comparisons, designed to minimise the risk of systematic errors (biases) and random errors (the play of chance).

### 2.1 Comparisons of treatments should be fair.
Consider whether
- a) the people being compared were similar,
- b) the people being compared were cared for similarly,
- c) the people being compared knew which treatments they received,
- d) outcomes were assessed similarly in the people being compared,
- e) outcomes were assessed reliably,
- f) outcomes were assessed in all (or nearly all) the people being compared, and
- g) people’s outcomes were analysed in the group to which they were allocated.

### 2.2 Reviews of the effects of treatments should be fair.
Consider whether
- a) systematic methods were used,
- b) unpublished results were considered,
- c) treatments were compared across studies, and
- d) important assumptions were tested.

### 2.3 Descriptions of effects should clearly reflect the size of the effects.
Be cautious of
- a) verbal descriptions alone of the size of effects,
- b) relative effects of treatments alone,
- c) average differences between treatments, and
- d) lack of evidence being interpreted as evidence of “no difference”.

### 2.4 Descriptions of effects should reflect the risk of being misled by the play of chance.
Be cautious of
- a) small studies,
- b) results for a selected group of people within a study,
- c) p-values, and
- d) results reported as “statistically significant” or “non-significant”.

## 3. Choices
What to do depends on judgements about a problem, the relevance of the available evidence, and the balance of expected benefits, harms, and costs.

### 3.1 Evidence should be relevant.
- a) Be clear about what the problem or goal is and what the options are.
- b) Consider the relevance of
- c) fair comparisons in laboratories, animals, or highly selected people,
- d) the treatments that were compared, and
- e) the circumstances in which the treatments were compared.

### 3.2 Expected advantages should outweigh expected disadvantages.
- a) Weigh the benefits and savings against the harms and costs of acting or not.
- b) Consider
- c) the baseline risk or severity of the symptoms when estimating the size of expected effects,
- d) how important each advantage and disadvantage is when weighing the pros and cons,
- e) how certain you can be about each advantage and disadvantage, and
- f) the need for further fair comparisons.