

# **Central Lancashire Online Knowledge (CLoK)**

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### Key Concepts for Informed Choices

#### **Claims**

Claims about effects should be supported by evidence from fair comparisons. Other claims are not necessarily wrong, but there is an insufficient basis for believing them.

### Comparisons

Studies should make fair comparisons, designed to minimize the risk of systematic errors (biases) and random errors (the play of chance).

### Choices

What to do depends on judgements about the problem, the relevance (applicability or transferability) of the evidence available, and the balance of expected benefits, harms and costs.

# Claims should not assume that interventions are safe, effective, or certain.

- Interventions can cause harms as well as benefits.
- · Large, dramatic effects are rare.
- We can rarely, if ever, be certain about the effects of interventions.

## Seemingly logical assumptions are not a sufficient basis for claims.

- Beliefs alone about how interventions work are not reliable predictors of the presence or size of effects.
- An outcome may be associated with an intervention but not caused by it.
- More data is not necessarily better
- The results of one study considered in isolation can be misleading.
- Widely used interventions or those that have been used for decades are not necessarily beneficial or safe.
- Interventions that are new or technologically impressive may not be better than available alternatives.
- Increasing the amount of an intervention does not necessarily increase its benefits and may cause harm.

# Trust in a source alone is not a sufficient basis for believing a claim.

- Competing interests may result in misleading claims.
- Personal experiences or anecdotes alone are an unreliable basis for most claims.
- Opinions of experts, authorities, celebrities, or other respected individuals are not alone a reliable basis for claims.
- Peer review and publication by a journal do not guarantee that comparisons have been fair.

## Comparisons of interventions should be fair.

- Comparison groups and conditions should be as similar as possible.
- Indirect comparisons of interventions across different studies can be misleading.
- The people, groups or conditions being compared should be treated similarly, apart from the interventions being studied.
- Outcomes should be assessed in the same way in the groups or conditions being compared.
- Outcomes should be assessed using methods that have been shown to be reliable.
- It is important to assess outcomes in all (or nearly all) the people or subjects in a study.
- When random allocation is used, people's or subjects' outcomes should be counted in the group to which they were allocated. <??!</li>

### Syntheses of studies should be reliable.

- Reviews of studies comparing interventions should use systematic methods.
- Failure to consider unpublished results of fair comparisons may bias estimates of effects.
- Comparisons of interventions may be sensitive to underlying assumptions.

#### Descriptions should clearly reflect the size of effects and the risk of being misled by the play of chance.

- Verbal descriptions alone of the size of effects alone can be misleading.
- Small studies may be misleading.
- Confidence intervals should be reported for estimates of effects.
- Deeming results to be "statistically significant" or "nonsignificant" can be misleading.
- Lack of evidence of a difference is not the same as evidence of "no difference".

# Problems, goals and options should be defined.

- The problem should be diagnosed or described correctly.
- The goals and options should be acceptable and feasible.

### Available evidence should be relevant.

- Attention should focus on important, not surrogate, outcomes of interventions.
- There should not be important differences between the people or subjects in studies should be similar to and those to whom the study results will be applied of interest
- The interventions compared should be similar to those of interest.
- The circumstances in which the interventions were compared should be similar to those of interest.

## Expected pros should outweigh cons.

- Consider how these are valued, their
- Catalogue uncertainties<u>certainty</u> of these, and how they
- Understand how these are distributed, when more than one person or subject is affected
- Important uncertainties about the effects of interventions should be reduced by further fair comparisons.

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