

Use of indirect comparison in cost-effectiveness evaluation 費用対効果評価における間接比較の利用



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中央社会保険医療協議会における費用対効果評価制度では、評価対象技術の比較対照技術に対する追加的有用性、すなわちcomparative effectivenessを評価する必要がある。しかし、本制度における比較対照は必ずしも臨床試験における比較対照と一致しないため、既存の臨床試験の結果を活用できないこともある。したがって、様々なデータの活用が必要となり、リアルワールドデータはその助けとなる可能性を秘めている。一方で、リアルワールドデータをネットワークメタアナリシス、matched adjusted indirect comparison、simulated treatment comparisonといった間接比較の手法を通じて活用するには種々の配慮が必要となる。本セッションでは、これらリアルワールドデータを用いて間接比較を行う場合における課題を考えてゆきたい。

The additional benefit, i.e., comparative effectiveness between a selected technology and a comparator is needed to be evaluated in the framework of cost-effectiveness evaluation system in Japan. However, it is often difficult to use existing clinical trials because the comparator selected in the system is not necessarily consistent with comparator in the existing clinical trials. Thus, several types of data including real world data may help address estimation of comparative effectiveness between them. On the other hand, to use real world data needs several cautions at applying indirect comparison, for example, network meta-analysis, matched adjusted indirect comparison or simulated treatment comparison. In this session, we are going to consider some problems in applying indirect comparison using real world data.

Cost-Effectiveness evaluation in Japan

- How to select comparator(s)

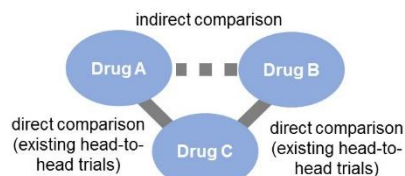
Guideline for Preparing Cost-Effectiveness Evaluation to the Central Social Insurance Medical Council, version 2.0.

4.1 The comparator(s) should be principally selected from among technologies which are expected to be replaced by the selected technology at the time when the technology was introduced to treat the target population. **Among them, technologies which are widely used in clinical practice and which result in a better outcome should be selected.**

Thus, the selected comparator(s) is/are not necessarily consistent with comparator(s) in the existing clinical trials.

Indirect comparison

In the absence of head-to-head trials, indirect comparisons provide evidence of comparative effectiveness.

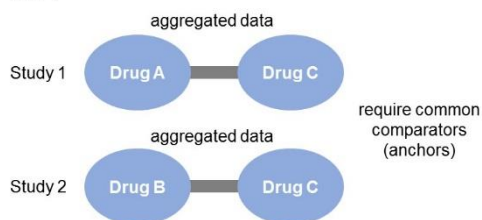


The comparative effectiveness between drug A and B can be estimated using drug C as an anchor.

Types of indirect comparisons

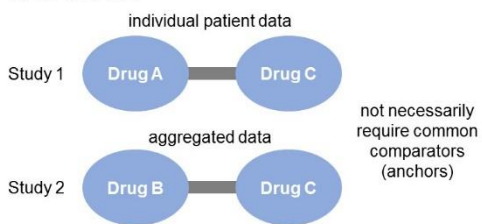
- Network meta-analysis (NMA)
 - an extension of standard pairwise meta-analysis
- Matched adjusted indirect comparison (MAIC)
 - a form of propensity score weighting
- Simulated treatment comparison (STC)
 - a form of outcome regression

NMA



The comparative effectiveness can be estimated using aggregated data from study 1 and 2 through the common comparator.

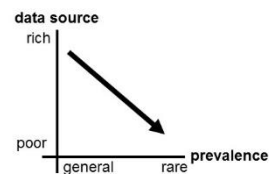
MAIC and STC



The comparative effectiveness can be estimated using individual patient data from study 1 and aggregated data from study 2 through the common comparator or without it.

Use of real-world data

However, relevant trials, particularly randomized controlled trials (RCTs), themselves are often unavailable since some new technologies are developed for rare diseases or special conditions.



What if this problem can be solved using real-world data?
Is there anything that we should pay attention to?