THE USE OF MATCHING-ADJUSTED INDIRECT COMPARIOSN FOR ONCOLOGY SUBMISSIONS IN NICE MSR74

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Conclusion

MAIC allows to adjust the between-trial differences in patient and disease characteristics at baseline and is being widely used and accepted by the HTA bodies after NICE DSU guidelines

Background

- It is critical to compare a new treatment to the standard treatments in support of health technology appraisal (HTA) submissions
- New interventions usually do not have a direct trial which could compare their efficacy and safety with all relevant comparators
- In such cases, indirect comparisons can be utilized to produce estimates and remain essential to determine the safety and efficacy estimates that are employed in the HTA procedure
- In the absence of direct comparison several HTA agencies documented their interest in obtaining results from ITC ((NICE-UK, G-BA-Germany). Decision Support Unit (DSU) 18 brought formal submission guidelines on MAICs and STCs where traditional NMA was not feasible

Objective

The SLR aimed to review the technology appraisals from the National Institute for Health and Care Excellence (NICE) to assess the use of MAIC methods

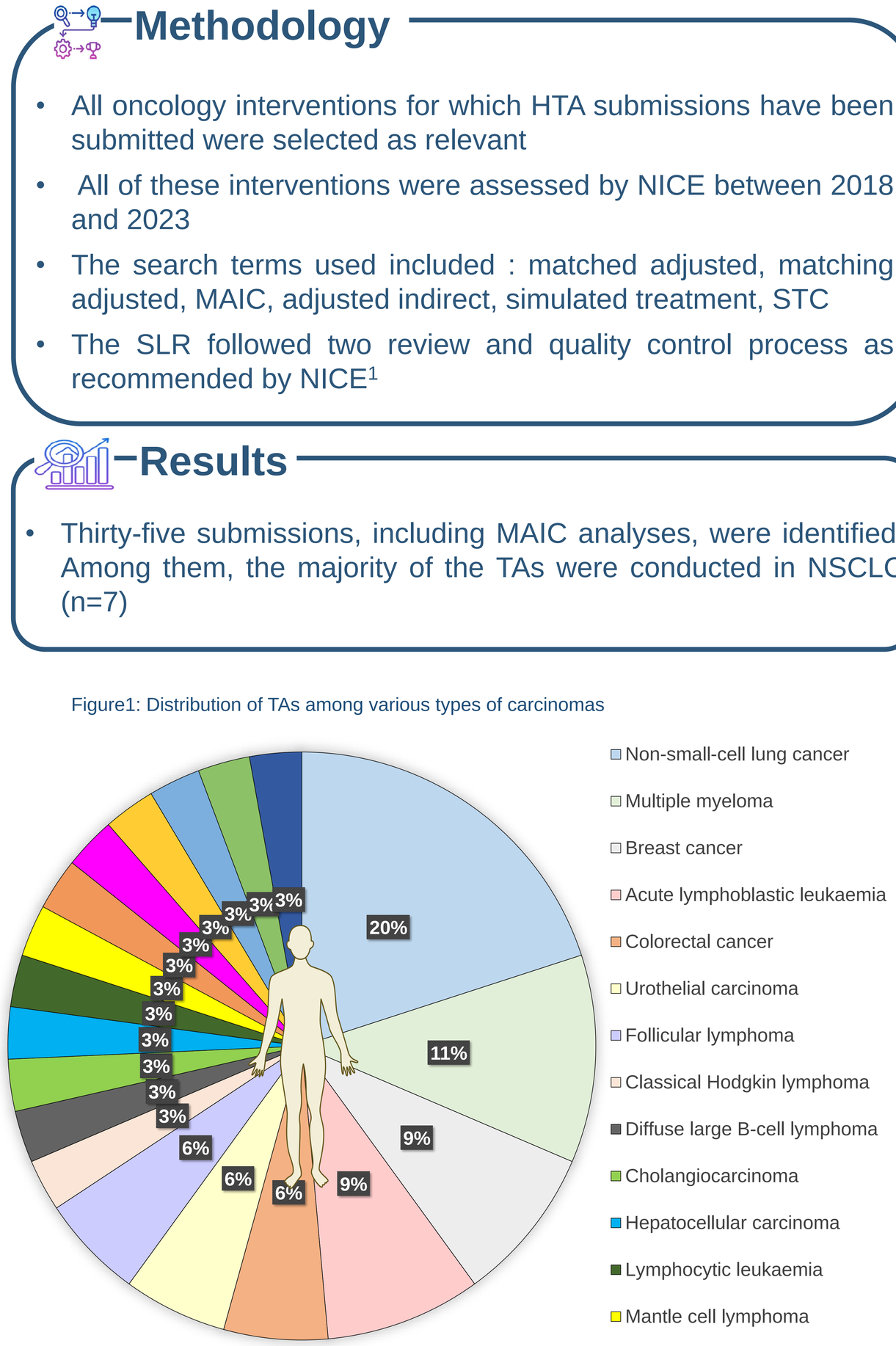
Methodology

- All oncology interventions for which HTA submissions have been submitted were selected as relevant
- All of these interventions were assessed by NICE between 2018 and 2023
- The search terms used included : matched adjusted, matching adjusted, MAIC, adjusted indirect, simulated treatment, STC
- The SLR followed two review and quality control process as recommended by NICE[1]

Results

- Thirty-five submissions, including MAIC analyses, were identified. Among them, the majority of the TAs were conducted in NSCLC (n=7)

Figure1: Distribution of TAs among various types of carcinomas



Results (contd.)

- **Figure 1** gives a pictorial representation of TAs conducted in different types of cancers
- Thirty-five TAs were identified on the NICE website, out of which 14 were RCTs and 21 were single-arm studies **(Table 2)**
- Twenty-five submissions used unanchored MAIC to create virtual connections in the unconnected networks derived majorly from single-arm trials
- For one MAICs historical control was used. It was also noted that the beneficial effects were generally higher in the MAICs than in the naïve indirect comparisons
- The use of MAIC was considered appropriate by ERG in majority of the cases and 30 out of 35 submissions received positive recommendation by NICE
- One of the major limitations was unavailability of recent data from randomised controlled trials, variation in population across studies due to which important prognostic factors could not be adjusted and small sample size for various subgroups within the study

Table 2: Description of the MAIC used, clinical evidence and NICE recommendations

Intervention	Disease	Method	Clinical evidence	NICE Recommended (Yes/No)
Acalabrutinib	Chronic lymphocytic leukaemia	Unanchored	RCTs	Yes
Asciminib	Myeloid leukaemia	Unanchored	RCTs	Yes
Atezolizumab	1. Urothelial carcinoma 2. Breast cancer	1. Unanchored 2. Unanchored	1. Single arm 2. RCTs	1. No 2. Yes
Autologous anti-CD19-transduced CD3+ cells	Mantle cell lymphoma	Unanchored	Single arm	Yes
Blinatumomab	Acute lymphoblastic leukaemia	Matched with historical control	Single arm	Yes
Brexucabtagene	Acute lymphoblastic leukaemia	Unanchored	Single arm	Yes
Brigatinib	Non-small-cell lung cancer	Anchored and unanchored	RCTs	Yes
Cabozantinib	Hepatocellular carcinoma	Anchored	RCTs	Yes
Cemiplimab	Squamous cell carcinoma	Unanchored	Single arm	Yes
Dabrafenib + trametinib	Non-small-cell lung cancer	Unanchored	Single arm	Yes
Daratumumab	1. Multiple myeloma 2. Multiple myeloma 3. Multiple myeloma	1. Unanchored 2. Unanchored 3. Unanchored	1.RCTs 2.Single-arm 3.RCTs	Yes
Dostarlimab	Previously treated advanced or recurrent endometrial cancer	Unanchored	Single arm	Yes
Fulvestrant	Breast cancer	Anchored/ not reported	RCTs	No
Idelalisib	Follicular lymphoma	Unanchored	Single arm	No
Isatuximab	Multiple myeloma	Unanchored	Single arm	Yes
Lorlatinib	Non-small-cell lung cancer	Unanchored	Single arm	Yes
Mosunetuzumab	Follicular lymphoma	Unanchored	RCTs	No
Niraparib	Ovarian, fallopian tube and peritoneal cancer	Anchored	RCTs	Yes
Nivolumab	Invasive urothelial cancer	Age- and sex-matched general population	RCTs	Yes
Nivolumab + ipilimumab	Colorectal cancer	Unanchored	Single arm	Yes
Olaparib	Prostate cancer	Anchored	RCTs	Yes
Pembrolizumab	1. Classical Hodgkin lymphoma 2. Non-small-cell lung cancer	1. Unanchored 2. Anchored and unanchored	1. Single arm 2. RCTs	1. No 2. Yes
Pemigatinib	Cholangiocarcinoma	Unanchored	Single arm	Yes
Regorafenib	Colorectal cancer	Anchored	RCTs	Yes
Selpercatinib	1. Non-small-cell lung cancer 2.Thyroid cancer	1. Unanchored 2. Unanchored	1. Single arm 2. Single arm	Yes
Sotorasib	Non-small-cell lung cancer	Unanchored	Single arm	Yes
Tafasitamab + lenalidomide	Diffuse large B-cell lymphoma	Partially anchored	Single arm	No
Tepotinib	Non-small-cell lung cancer	Unanchored	Single arm	Yes
Tisagenlecleucel	Acute lymphoblastic leukaemia	Unanchored	Single arm	Yes
Trastuzumab deruxtecan	Breast cancer	Unanchored	Single arm	Yes

Abbreviations: RCT, Randomized controlled trials

References

1.National Institute for Health and Care Excellence (NICE). The Guidelines Manual. Process and methods [PMG6]. Published 30th November. 2012

Disclosure

GK and BS, the authors, declare that they have no conflict of interest

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