framework for modelling the innovative activities such as CDSS implementation across the digital health landscape which minimizes the operational and strategic fragmentation of different organizations.

OP208 Did Health Technology Assessments Make the Wrong Call? Quantitative Bias Analysis: Alectinib versus Ceritinib in Non-Small Cell Lung Cancer

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Introduction. The German health technology assessment (HTA) rejected additional benefit of alectinib for second line (2L) ALK+ NSCLC, citing possible biases from missing ECOG performance status data and unmeasured confounding in real-world evidence (RWE) for 2L ceritinib that was submitted as a comparator to the single arm alectinib trial. Alectinib was approved in the US and therefore US post-launch RWE can be used to evaluate this HTA decision.

Methods. We compared the real-world effectiveness of alectinib with ceritinib in 2L post-crizotinib ALK+ NSCLC using the nationwide Flatiron Health electronic health record (EHR)-derived de-identified database. Using quantitative bias analysis (QBA), we estimated the strength of (i) unmeasured confounding and (ii) deviation from missing-at-random (MAR) assumptions needed to nullify any overall survival (OS) benefit.

Results. Alectinib had significantly longer median OS than ceritinib in complete case analysis. The estimated effect size (Hazard Ratio: 0.55) was robust to risk ratios of unmeasured confounder-outcome and confounder-exposure associations of <2.4.

Based on tipping point analysis, missing baseline ECOG performance status for ceritinib-treated patients (49% missing) would need to be more than 3.4-times worse than expected under MAR to nullify the OS benefit observed for alectinib.

Conclusions. Only implausible levels of bias reversed our conclusions. These methods could provide a framework to explore uncertainty and aid decision-making for HTAs to enable patient access to innovative therapies.

OP218 Searching Preprint Repositories For COVID-19 Therapeutics Using A Semi-Automated Text-Mining Tool

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Introduction. The COVID-19 pandemic led to a significant surge in clinical research activities in the search for effective and safe treatments. Attempting to disseminate early findings from clinical trials in a bid to accelerate patient access to promising treatments, a rise in the use of preprint repositories was observed. In the UK, NIHR Innovation Observatory (NIHRIO) provided primary horizon-scanning intelligence on global trials to a multi-agency initiative on COVID-19 therapeutics. This intelligence included signals from preliminary results to support the selection, prioritisation and access to promising medicines.

Methods. A semi-automated text mining tool in Python3 used trial IDs (identifiers) of ongoing and completed studies selected from major clinical trial registries according to pre-determined criteria. Two sources, BioRxiv and MedRxiv are searched using the IDs as search criteria. Weekly, the tool automatically searches, de-duplicates, excludes reviews, and extracts title, authors, publication date, URL and DOI. The output produced is verified by two reviewers that manually screen and exclude studies that do not report results.

Results. A total of 36,771 publications were uploaded to BioRxiv and MedRxiv between March 3 and November 9 2020. Approximately 20–30 COVID-19 preprints per week were preselected by the tool. After manual screening and selection, a total of 123 preprints reporting clinical trial preliminary results were included. Additionally, 50 preprints that presented results of other study types on new vaccines and repurposed medicines for COVID-19 were also reported.

Conclusions. Using text mining for identification of clinical trial preliminary results proved an efficient approach to deal with the great volume of information. Semi-automation of searching increased efficiency allowing the reviewers to focus on relevant papers. More consistency in reporting of trial IDs would support automation. A comparison of accuracy of the tool on screening titles/abstract or full papers may help to support further refinement and increase efficiency gains.

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OP220 What Factors Do Clinicians Value Most In Selecting Physician Preference Items? A Survey Among Italian Orthopaedists

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Introduction. Physician preference items (PPIs) are high-cost medical devices on which clinicians express firm preferences with respect to a particular manufacturer and a specific product. The aim of this research is to understand what are the most important factors, as well as their relative importance, in the choice of new PPIs (that is, hip or knee prosthesis) adoption on behalf of orthopaedic clinicians in Italy.

Methods. Based on a literature review and clinical experts' opinions, we identified a number of key factors (for example, health technology assessment (HTA) recommendation) and their corresponding levels (for example positive HTA recommendation). We

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