METALENS

HOW CAN WE MAKE FINDING SCIENCE-BASED ANSWERS EASIER?

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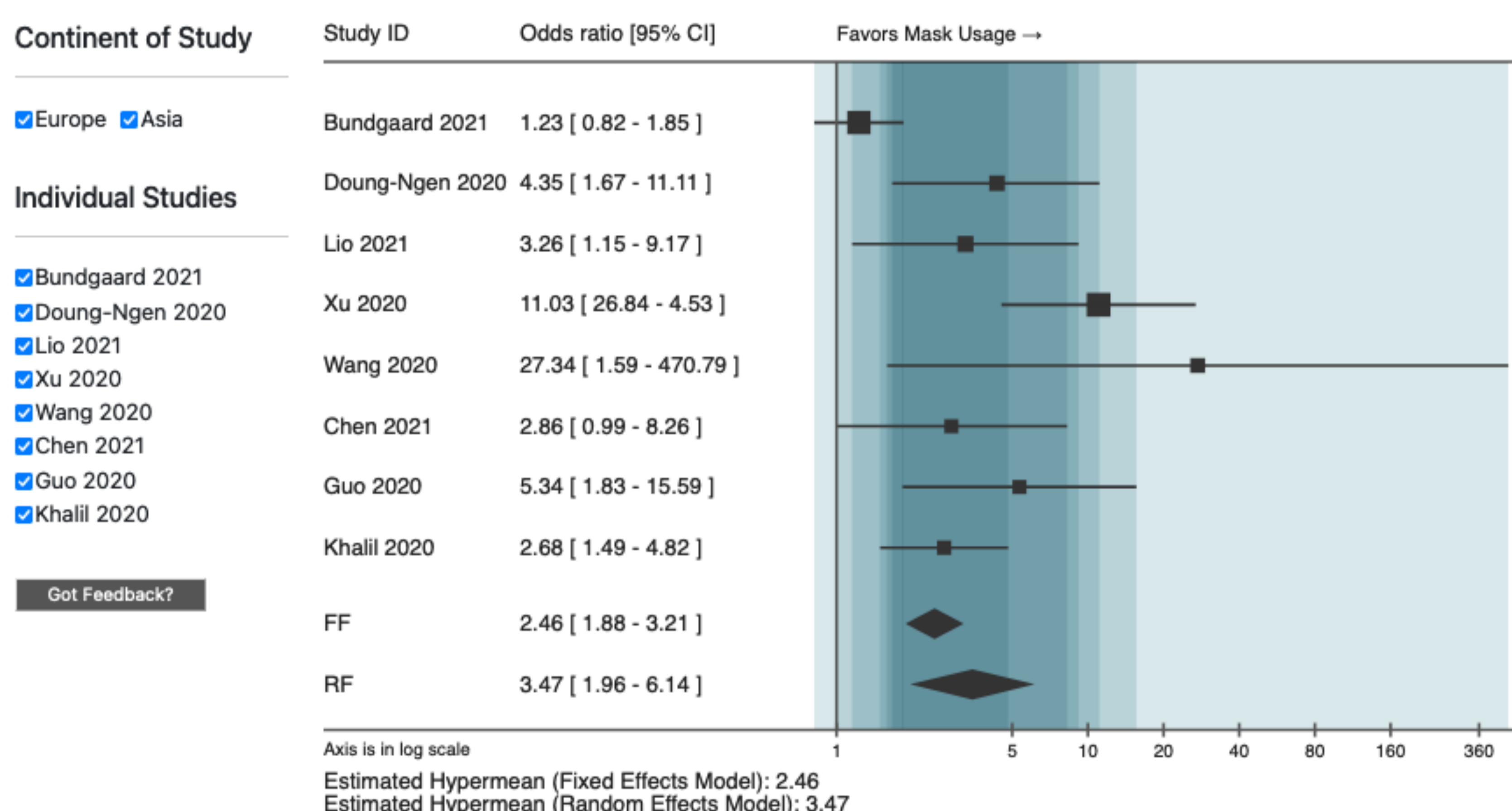### ANSWERING QUESTIONS BASED ON SCIENCE HAS BECOME A SEARCH PROBLEM

More than 45 million articles have been published in scientific and technical journals since 1996 – a number that grows by 2.5 million every year.[1] If you wanted to know what science says about the best treatment for curing a cold, you will find hundreds of studies that address this topic. But how does one make sense of all these different scientific studies?

[1] World Bank (2022); United Nations (2022).
https://data.worldbank.org/indicator/IP.JRN.ARTC.SC

In a world of information overload, finding information on a certain topic is not a problem.

The real challenge is making sense of the available information.

Users can choose to filter studies based on e.g., the continent where a study has been conducted. The forest plot then displays the aggregated results from all studies that fit the user's criteria. Thereby, the current state of scientific knowledge is compressed into a single, personalized answer.

AGGREGATING SCIENTIFIC RESULTS

Meta-analyses are statistical analyses that combine the results of multiple scientific studies on the same topic.[2]

This makes them a great starting point for collecting published research results on a specific subject. However, meta-analyses are usually not easy to understand: the relevant studies are difficult to separate from a lot of noise, and detailed subject-matter knowledge is frequently needed to interpret the results.

[2] Wikipedia contributors. (2023, December 3). Living review. In Wikipedia, The Free Encyclopedia. Retrieved 20:58, January 16, 2024, from https://en.wikipedia.org/w/index.php?title=Living_review&oldid=1188076700

INTERACTIVE META-ANALYSES

Our idea is: what if we turned meta-analyses into interactive tools that everyone can access?

Metalens is a first prototype for a website that allows its users to ask a question and get science-backed answers tailored to their request. In its current version, Metalens contains information from over 20 open-source meta-studies. Users can filter those studies according to the criteria that they consider relevant. For example, you could filter only studies that investigate the effects of treatments for a cold in children. Our website would then deliver you the aggregated results from all those studies – leaving you with one concrete, evidence-based answer to your question.

VISION OUTLOOK

Our hope would be that - at some point - in the future, a large part of published studies will be part of some kind of an interactive meta-analysis.

If we had one credible (open-access) source of interactive meta-studies, this could easily become the go-to information resource for any questions where people care about the underlying scientific evidence. It could not only help combat misinformation but also help science play a larger role in forming the opinions of the general public.