

EATLancet vs yes2meat: the digital backlash to the planetary health diet

Food production, climate change, and human health are intrinsically related. The EAT–Lancet Commission¹ is one of the first attempts to summarise and communicate the best available science on what constitutes a healthy diet within environmental targets. The launch of the report was paralleled by several international launch events, including a social media campaign with its own hashtag: #EATLancet.

Although the report was positively received by established international media outlets such as *The Guardian* and *The New York Times*, it also led to highly polarised debates online including misinformation, conspiracy theories, and personal attacks along with the hashtag #yes2meat. The controversies online associated with the EAT–Lancet Commission, we believe, show how a rapidly changing media landscape and polarisation² pose serious challenges to science communication on health and climate issues.

To understand the effect of this controversy, we have collected and analysed a dataset of Twitter activity linked to EAT–Lancet and yes2meat with 4278 Twitter users and 8.5 million tweets (appendix p 1). Our analysis confirms that a digital countermovement managed to organise rapidly, essentially dominating online discussions about the EAT–Lancet report in intriguing and worrying ways. Our conclusion is based on the following observations. First, it is evident that a countermovement targeting the EAT–Lancet report began to organise around 1 week before its official launch date on Jan 17, 2019. The time series of tweets mentioning EAT–Lancet and yes2meat (figure) shows that the term yes2meat started to surface a few days before the launch (ie, on Jan 14).

Although #yes2meat, from the outset, was used to promote meat-based diets independently of the report, it rapidly became the term against the Commission that opponents organised around online. By actively promoting #yes2meat right before, during, and after the EAT–Lancet report launch (appendix pp 7–8), this counter movement was approximately ten times more likely to be negative about the report than positive or neutral (appendix p 1). This scenario has resulted in the wide distribution of critical (and at times defamatory) articles on

alternative media platforms (appendix pp 6–7). Hence, the EAT–Lancet report not only sparked the spread of a science-based message under the official hashtag #EATLancet, but also resulted in the formation of a new sceptical online community organising around a new hashtag #yes2meat (appendix pp 2, 7–8). The number of daily tweets from this sceptical community was high for several weeks after the Commission was released, surpassing the total number of tweets mentioning EAT–Lancet by the end of our observation period (8586 tweets



Published Online
November 25, 2019
[https://doi.org/10.1016/S0140-6736\(19\)32526-7](https://doi.org/10.1016/S0140-6736(19)32526-7)

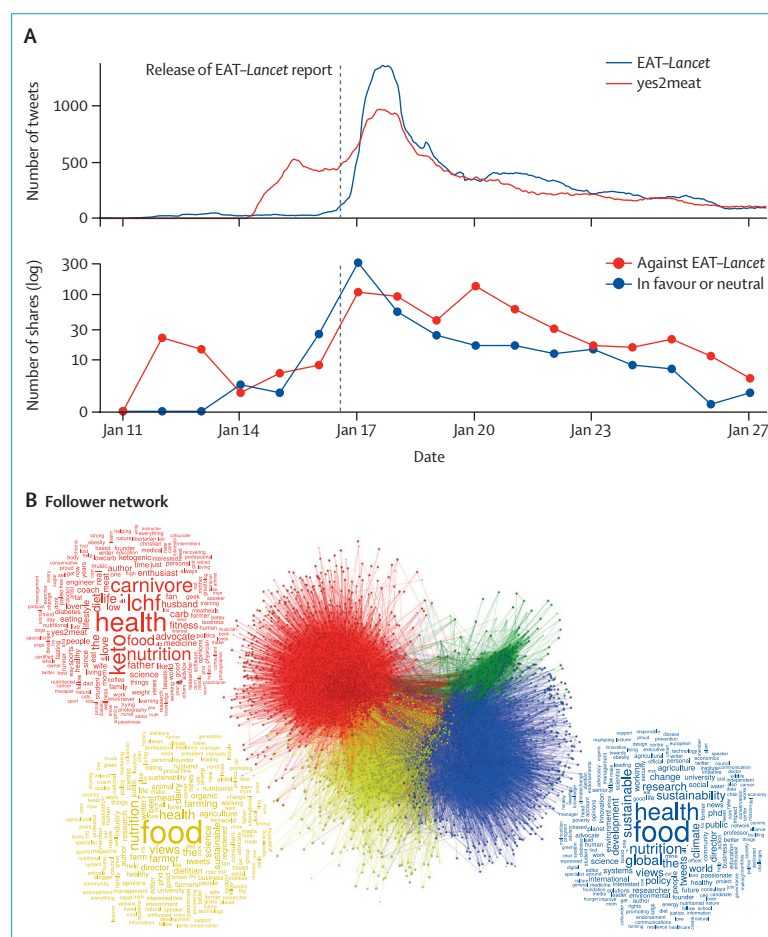


Figure: Number of tweets and links, and community structure related to EAT–Lancet and yes2meat

The upper graph shows a time series of the number of tweets for each term in a 24 h rolling window over the first weeks after the EAT–Lancet launch (Jan 11–27). The lower graph shows the daily number of link shares to pages against and in favour of the Commission (A). A follower network with nodes and their outgoing links is coloured by community and coloured word clouds of the profiles of users in each community (B). Words have a size proportional to their frequency in profile text. The largest community (blue) is generally positive, with the second largest (red) very negative, and the third one (yellow) displaying a mix of sentiments. The fourth community (green) is composed of vegan diet supporters that opposed yes2meat independently of the EAT–Lancet Commission. Details are included in the appendix (pp 1–4, 6–7).

For Twitter activity data see
<https://github.com/dgarcia-eu/EATLancetR>

See Online for appendix

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vs 7281 tweets; appendix p 2). It is important to note that this diffusion was not driven by automatically produced content through so-called social bots, but by a growing community of sceptical social media users (appendix pp 5–6).

As shown in panel B of the figure (and as shown in an online visualisation),⁵ three major online communities have evolved. One community (coloured blue) is clearly supportive of the *EAT-Lancet* report, whereas the second (coloured red) is sceptical (appendix p 3). An important observation is that a third ambivalent community (coloured yellow) seems to have grown more sceptical over time. These data show that this community shared (ie, retweeted) messages from the community that were overwhelmingly critical of *EAT-Lancet* (red) six times more frequently than from the supportive community (blue) during the weeks after the launch. These data show the influence of the #yes2meat movement in online discussions about the *EAT-Lancet* report.

Scientists and journals face serious challenges in a rapidly changing media landscape that is susceptible to the intentional dissemination of misleading content.² Health communication campaigns are clearly susceptible to polarisation, so-called content pollution, and disinformation.^{3,4}

Scientists and scientific outlets such as *The Lancet* need to be continuously aware of, and act proactively, to avoid manipulation and misinformation about issues of fundamental importance for human health and the planet.

VG is Deputy Director at the Stockholm Resilience Centre (SRC), Stockholm University. SRC is scientific partner to the EAT Foundation. This study has not been received support or funding by the EAT Foundation, and is an independent study coordinated by the research programme "Governance, Technology and Complexity" at the Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences). All other authors declare no competing interests. DG is supported by the Vienna Science and Technology Fund grant VRG16-005. VG is supported by the Beijer Institute of Ecological Economics (Royal Swedish Academy of Sciences, and SRC, Stockholm University). SD did not receive funding to support this work.

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