



OPEN ACCESS

Paying lip service to publication ethics: scientific publishing practices and the Foundation for a Smoke-Free World

Tess Legg ,¹ Michél Legendre,² Anna B Gilmore ^{1,3}

¹Tobacco Control Research Group, Department for Health, University of Bath, Bath, UK
²Corporate Accountability, Boston, Massachusetts, USA
³STOP (Stopping Tobacco Organizations and Products), Bath, UK

Correspondence to

Tess Legg, Tobacco Control Research Group, Department for Health, University of Bath, Bath BA2 7AY, UK; t.legg@bath.ac.uk

Received 9 June 2020

Revised 18 January 2021

Accepted 21 January 2021

Published Online First

28 April 2021

ABSTRACT

Litigation forced the dissolution of three major tobacco industry-funded organisations because of their egregious role in spreading scientific misinformation. Yet in 2017, a new scientific organisation—the Foundation for a Smoke-Free World (FSFW)—was launched, funded entirely by tobacco corporation Philip Morris International (PMI). Experts fear FSFW similarly serves to benefit its funder's scientific and political agenda. We present three case studies of FSFW's publishing practices to explore: whether FSFW and its affiliates are acting with scientific integrity in their attempts to publish research; how conflicts of interest (COI) are governed in the journals FSFW targets; whether scientific publishing needs to be better protected from the tobacco industry in light of this, and if so, how. FSFW and its grantees have resorted to repeated obfuscation when publishing their science. FSFW staff have failed to act transparently and arguably have sought control over editorial processes (at times facilitated by PR firm, Ruder Finn). FSFW-funded organisations (including its Italian 'Centre of Excellence') and researchers affiliated with FSFW (including those working as editors and peer-reviewers) have failed to disclose their links to FSFW and PMI. While journals also failed to apply their COI policies, including on tobacco industry-funded research, the findings highlight that such policies are almost entirely dependent on researchers fully declaring all potential COIs. The paper explores ways to address these problems, including via standardised reporting of COI and funding in journals; journal policies prohibiting publication of tobacco industry-funded science; development of an author-centric database of financial interests; and legally mandated tobacco industry financial contributions to fund science on new tobacco and nicotine products.

INTRODUCTION

The tobacco industry has historically created third party groups to distribute its research funding and obscure its involvement in science and policy influence. These include the Tobacco Industry Research Committee (TIRC)¹ and the Tobacco Institute,² both created in the 1950s; and the Center for Indoor Air Research (CIAR)³ created in the 1980s. In recognition that these groups were used by the industry to manufacture doubt about tobacco harms, the 1998 Master Settlement Agreement (MSA), between the largest American tobacco corporations and the attorneys general of 46 US states, ordered their dissolution.⁴ Subsequent civil litigation in 2006

found the tobacco industry guilty of a 'lengthy, unlawful conspiracy to deceive the American public' about the health harms of smoking.⁵ It concluded these third parties had been so central to this fraudulent activity, and their actions so egregious, that the industry would be banned from 'reconstituting' their 'form or function'.⁵

Yet in 2017, the innocuous-sounding Foundation for a Smoke-Free World ('the Foundation' or 'FSFW') was launched, financed entirely by Philip Morris International (PMI, the world's largest transnational tobacco corporation), at a cost of nearly US\$1 billion over the coming 12 years.⁶ The Foundation states that it is independent and aims to fund research to end smoking within a generation.⁶ Yet similarities between the Foundation and its predecessors suggest it may be the latest tobacco industry third party furthering the industry's interests in science and policy circles, where the industry is mostly seen as a pariah.⁷ Unlike the parent companies that owned PMI at the time, PMI has never been subject to the terms of the 1998 MSA nor the 2006 civil litigation ruling.^{4 5 8} However, using its tobacco industry funds to create FSFW, a new scientific organisation, could be said to defy the spirit of both.

Based on the industry's long history of science manipulation^{9 10} and the unwitting role that journals have played in that,¹¹ over the last decade, growing numbers of journal editors have made the decision not to publish research funded either wholly or in part by the tobacco industry,¹²⁻¹⁴ nor research by authors who accept tobacco industry funding.^{13 14} Such decisions recognise that peer review can only play a partial role in preventing industry manipulation of science, since research misconduct and its impacts on study findings and conclusions are often impossible to detect.¹² Further, allowing the tobacco industry to publish in peer-reviewed settings creates an air of scientific credibility about the industry, its affiliates and its science.¹⁴

However, other journal editors (including members of the International Society of Addiction Journal Editors) have concluded that increased transparency, rather than prohibiting publication of industry-funded science, should be the goal, recommending that journals govern conflicts of interest (COIs) through the use of funding declarations and COI statements.¹⁵

Yet neither of these systems (prohibiting tobacco industry science, nor relying solely on transparency) is a panacea: they are vulnerable to situations where tobacco industry-funded bodies and authors obscure their links to industry, and rely on journal



► <http://dx.doi.org/10.1136/tobaccocontrol-2020-056391>



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Legg T, Legendre M, Gilmore AB. *Tob Control* 2021;**30**:e65–e72.

editors rigorously applying these policies, and without having COIs of their own.

Using three case studies of the Foundation's attempts to publish its research, we explore the following issues:

- ▶ Whether the Foundation and its affiliates are acting transparently and with scientific integrity in their attempts to publish research.
- ▶ How COIs are governed in the journals it targets, and the extent to which this governance is adequate in countering tobacco industry attempts to influence scientific publication.
- ▶ Whether scientific publishing can be better protected from the tobacco industry, and if so, how.

THREE CASE STUDIES OF FSW'S PUBLISHING PRACTICES

Case study one: FSW special issue in the 'International Journal of Environmental Research and Public Health'

This first case study outlines the Foundation's attempts to publish its research in the International Journal of Environmental Research and Public Health (IJERPH). The Foundation used a public relations (PR) firm to coordinate publication of its science; sought (and was granted) high levels of editorial control over a special issue despite clear COIs; and presented itself as independent from industry, which was important as the journal has a restriction on publishing tobacco industry research.

In November 2018, the IJERPH, an open-access journal (published by MDPI, with an impact factor of 2.849 in 2019),¹⁶ announced a policy banning tobacco industry-funded science, saying it:

will not consider for publication papers reporting work funded, in whole or in part, by a tobacco company or tobacco industry organization or affiliate. Nor will the journal consider papers by authors who accept tobacco industry or affiliate funding, including funding for research costs and for all or part of any author's salary, or other forms of personal remuneration.¹⁷

Yet in October 2019, a special issue was announced with Derek Yach, FSW's president, as guest editor, entitled '15 years after the Framework Convention on Tobacco Control's (FCTC) Adoption: Time for Greater Urgency and Focus'.¹⁸ The COI here is clear: not only is the Foundation fully funded by PMI, but PMI's intense opposition to the development of, and ongoing attempts to undermine, the FCTC are well-documented.^{19 20}

We contacted the journal editors on 28 October 2019 to inform them the special issue contravened their policy and they withdrew the announcement and call for papers. As part of this correspondence, the journal provided us with emails explaining the circumstances (some between the Foundation's Vice President (VP) of Communications and the journal, and one between PR company, Ruder Finn, and the journal).

These suggest the Foundation used PR company Ruder Finn²¹ to negotiate the publication of its research. In an email dated September 2019 between the PR company and the journal, Ruder Finn requested Yach be permitted to select 'a majority of the contributors', 'and specifically our grantees'. The journal agreed Yach could collect the papers he wished to, and added 'but kindly note that IJERPH does not publish studies funded by the tobacco industry.'

PMI has used PR firms for decades as part of its efforts to create and disseminate research refuting the harms of tobacco.²² As far back as 1968, Ruder Finn provided services to Philip Morris, advising 'you must take positive steps to neutralise the great reservoir of ill will that has been built up against you', 'you must also convince the public that you are interested in research' and 'that you are not 'peddling a deadly weapon.'²³ In

subsequent years, Ruder Finn facilitated Philip Morris' sponsorship of scientific symposiums, co-option of scientists and funding of scientific facilities; all in attempts to create doubt about health harms of smoking and bolster the corporation's credibility.²¹ In the 1990s, Ruder Finn was contracted again by Philip Morris, to fight advertising restrictions, and again proposed using third parties as a 'discrete, credible and effective voice...without being visible as Philip Morris'.²¹

The Foundation's most recent tax return reveals that it paid Ruder Finn over \$2 million in 2019 for PR work.²⁴ The Foundation's decision to work with a seemingly ever-expanding group of PR firms with previous links to PMI²⁵ is inconsistent with its supposed independence from the tobacco industry.

In another email exchange from September 2019 between the Foundation's VP of Communications and the IJERPH, the VP disclosed the Foundation is funded by PMI, but appears to have attempted to sidestep the journal's policy of not publishing tobacco industry-funded science, by failing to acknowledge that PMI is a tobacco company, sowing confusion about FSW's independence—describing FSW as 'an independent, non-profit organisation'.

The VP also caused further confusion by making fundamentally flawed comparisons between the Foundation and two other bodies: the US Food and Drug Administration (FDA) (the agency within the US Department of Health and Human Services funded through the federal budget and industry user fees to regulate food, medical products and tobacco)²⁶ and the Legacy Foundation, now the Truth Initiative²⁷ (which was established through the same legal action that led to the forced dissolution of tobacco industry third parties), saying:

I know you have communicated with our PR agency Ruder Finn about this and I am hoping to get clarity on one key issue... we are interested to know how you determine what falls under this tobacco industry funded umbrella since many studies funded by the FDA are in effect funded by industry, as are projects supported by Legacy F[oundation] (through the MSA).

Yet these payments received from the tobacco industry, as part of legally binding agreements, are fundamentally different from PMI's voluntary payment to an organisation it chose to establish for specific purposes, and over which there is no external oversight. This difference between voluntary industry contributions and mandatory payments—'compensations due to legal settlements or mandated by law or legally binding and enforceable agreements' is clearly outlined in the guidelines for implementation of Article 5.3 of the World Health Organization's (WHO) FCTC which calls for the former to be rejected.²⁸ Further, the *reductio ad absurdum* argument here is that any programme funded by a government department is ultimately tobacco industry funded because the state receives tobacco taxes and user fees.

In terms of independence, the Foundation states²⁹ that it meets Cohen *et al*'s criteria³⁰ for ensuring research funding programmes are free from tobacco industry interference. This is despite the authors stating that their criteria are not met and that the Foundation 'does not represent a funding model that should be acceptable to the research community'.³¹ Further, two independent deep dive analyses^{32 33} of the Foundation's constitutive documents indicate it should not be considered independent from its funder, with one concluding that:

Putting all this together, it would not be unreasonable to form a picture [...] in which Yach's 'independent foundation' is more akin to a program of Philip Morris, with Yach and the foundation's directors [...] having a degree of day-to-day autonomy in their

operations (just how much autonomy is unknowable), but with the fundamental settings put in place by, and enforced, by Philip Morris's USD 960 million.³²

In line with this, the FSFW has been rejected by nearly 300 leading academic and public health institutions and individuals globally³⁴ and the WHO, which denounced the Foundation, stating:

There are a number of clear conflicts of interest involved with a tobacco company funding a purported health foundation...WHO will not partner with the Foundation. Governments should not partner with the Foundation and the public health community should follow this lead.²⁰

Despite this widespread condemnation of the Foundation, the Managing Editor of the IJERPH, a health journal which has published over 700 papers on tobacco,³⁵ stated they were not aware of the Foundation's tobacco industry connections since the Foundation had called itself an 'independent non-profit organisation'; and that they 'didn't realize' PMI was a tobacco corporation.

Case study two: the Center of Excellence for the Acceleration of Harm Reduction special issue in the IJERPH

This second case study reveals further issues about the publishing practices of researchers in a FSFW-funded centre; despite the IJERPH's COI policy precluding publication of tobacco industry-linked research (whether funded by the tobacco industry or authored by those receiving its funds), researchers from one of the Foundation's two 'centres of excellence' have published in and undertaken editorial roles at the journal; and are often failing to adequately disclose their links to the tobacco industry.

Despite the IJERPH's decision to cancel Yach's planned special issue, 6 months later, in April 2020, the journal began publishing another special series linked to the Foundation, entitled 'Cyber Health Psychology and Psychotherapy: The Use of New Technologies in the Service of Mental Health'.³⁶ Two of the three guest editors of this issue are researchers at the Center of Excellence for the Acceleration of Harm Reduction (CoEHAR) based at the University of Catania, Italy.³⁷ CoEHAR, one of just two existing so-called 'centres of excellence' funded by FSFW to conduct tobacco harm reduction research, received over US\$8 million between 2018 and 2019 (through grantee Eclat Srl, an 'academic spin off' of the Department of Clinical and Experimental Medicine at the University of Catania)^{24 38 39} with a further US\$22.9 million committed, according to FSFW's 2019 tax return.²⁴

The first paper published within this special issue, an investigation of smoking cessation technology, was authored by CoEHAR researchers, including Pasquale Caponnetto and Riccardo Polosa.⁴⁰ In addition to his link to FSFW via CoEHAR,⁴¹ in 2020, Caponnetto was the first author of both a journal article detailing a trial funded by Philip Morris Products S.A.,⁴² and a preprint article detailing a trial on which he is listed as principal investigator funded by Juul Labs⁴³ (which is part-owned by Altria, owner of Philip Morris USA).⁴⁴ Riccardo Polosa, founder of CoEHAR, who has long-standing tobacco industry links,⁴⁵ co-authored both these papers. Despite the fact that Caponnetto's tobacco industry funding would seemingly mean his research being published in the IJERPH would contravene the journal's COI policy, he is not only an author but is also listed as the editor-in-chief of the IJERPH's section on mental health.⁴⁶

Caponnetto is also listed as editor-in-chief of the journal 'Health Psychology Research' (HPR),⁴⁷ an open-access journal published by Page Press Publishers.⁴⁸ HPR states that authors are

"responsible for disclosing all financial and personal relationships that might bias their work. To prevent ambiguity, authors must state explicitly whether potential conflicts do or do not exist."⁴⁹ In 2020, Caponnetto published three tobacco-related papers⁵⁰⁻⁵² in this journal within which he declared no COI (in two of these, coauthor Polosa declares funding from FSFW, but none of his previous funding from tobacco corporations).^{53 54}

In May 2020, we again contacted the IJERPH to flag the COIs with this second special issue. In relation to the CoEHAR-funded paper, IJERPH responded:

We very much appreciate your bringing this paper to our attention and we concur that it is contrary to the Journal policy concerning publishing research funded by tobacco companies and their proxies...Because the authors did acknowledge the funding source and because the journal policy was not communicated as prominently as it could have been in the instructions to authors, we do not feel withdrawing the paper is appropriate.

The journal did not cancel CoEHAR's special issue, and in August 2020 published another paper⁵⁵ written by CoEHAR researchers. Although this paper declared it received no external funding and was on a subject separate from tobacco, it still contravened the journal's policy of not publishing papers from authors who accept tobacco industry or affiliate funding.

When tobacco industry third parties such as FSFW disperse their funds through grantees, it becomes increasingly difficult to trace the industry connections. For instance, Riccardo Polosa has often and variously failed to disclose the research funds he has received from PMI, his consultancy fees from British American Tobacco, CoEHAR's link to FSFW and FSFW's link to PMI.⁴⁵ For example, CoEHAR's website has no funding statement, and on several papers where Polosa declares CoEHAR as an affiliation, no mention is made of FSFW or PMI in the funding or COI declarations.³⁷ In another instance, one of his papers⁵⁶ declared no external funding, despite being listed on the Foundation's own website as an 'FSFW-sponsored publication'.⁵⁷

CoEHAR itself now lists 17 organisations as 'international partners' on its website (including several of FSFW's other grantees).⁴¹ Complex relationships such as these further limit stakeholders' (including journal editors, peer-reviewers, and consumers of science such as researchers and health professionals) ability to distinguish industry-linked from independent science.

While the conduct of FSFW staff and the researchers it funds is questionable, so too is that of the IJERPH. Despite its public statement that it will not publish tobacco industry-linked science,¹⁷ these case studies illustrate it is repeatedly failing to effectively implement this policy.

Case study three: FSFW special issue in 'Drugs and Alcohol Today'

This third case study details the subsequent publication of Derek Yach's proposed special issue (as detailed in case study one) in journal 'Drugs and Alcohol Today' (DAT). The Foundation here appears to have chosen a journal which lacked a robust COI policy, and whose editor-in-chief had links to the Foundation; and FSFW-funded researchers once again failed to adequately declare their industry links.

Between May and July 2020, the proposed special issue on the WHO FCTC (cancelled by the IJERPH), was subsequently published in DAT in serialised form.⁵⁸ DAT is a hybrid journal (using both open access and subscription-based publishing models) published by Emerald Group Publishing, with an impact factor of 0.58 in 2018 (the most recent data available).⁵⁹ The publisher

states that ‘authors, reviewers and editors all have a duty to report possible COIs’⁶⁰ yet does not expressly preclude the publication of research funded by the tobacco (or any other) industry.

Arguments made within the papers included in this special issue often align with traditional industry arguments including critiques that: FCTC implementation has been poor and neglects low-income and middle-income countries; ‘traditional’ tobacco control is regressive and does not serve subsections of society adequately; deliberate misinformation about the relative risks of nicotine products abounds; greater collaboration between governments, the tobacco control community and the private sector is necessary; and weakening tobacco control measures in areas including taxation of next generation products and restrictions on flavourings (both of which PMI is known to oppose),^{19 61} may be warranted.⁵⁸ As such, much of the content appears to align with PMI’s interests, while PMI’s indirect funding of the papers is often not declared.

All nine papers in the special issue have Foundation grantees or staff members as authors. At the time of their publication, seven of the nine mention some affiliation with FSFW. Of the two papers that did not mention FSFW, one is written by authors from CoEHAR⁶² and the other⁶³ by authors from two FSFW-funded institutions (its other ‘centre of excellence’ in New Zealand),⁶⁴ and UK grantee the Centre for Health Research and Education.⁶⁵ Between them, these three grantees received US\$10.9 million over 2018 and 2019,^{24 38} and have US\$30.9 million more approved.²⁴ Only one of the nine papers, Derek Yach’s overview article, identifies PMI as the Foundation’s funder.⁶⁶

Sudhanshu Patwardhan, co-founder of FSFW grantee CHRE, a medical doctor who worked for British American Tobacco (BAT) between 2005 and 2019⁶⁵ was both guest editor of the special issue⁵⁸ and first author of a paper in it.⁶⁷ Despite the publisher’s policy that authors, reviewers and editors must all report possible conflicts of interest,⁶⁰ Patwardhan’s paper did not mention his previous employment with BAT (though it does disclose FSFW funding of CHRE). Nor is there a public statement of the conflicts of interest in relation to his editorial role – his funding from FSFW, recent history of employment with BAT, and that his business partner and co-founder of CHRE authored one of the papers⁶³ in the special issue.

In another link between DAT and FSFW, the journal’s editor-in-chief Axel Klein’s consultancy company, ACK Consultants, received US\$100 000 in grant funds from FSFW in May 2018,^{24 38} and as of December 2020 remains listed on the Foundation’s website as a current grantee.⁶⁸ There is no disclosure on DAT’s website of this connection between FSFW and Klein in relation to his editorial role (although the one paper co-authored by Klein in the special issue does disclose funding from FSFW).⁶⁹ This is not the first time Klein has been involved in the publication of FSFW science. In January 2019, a paper authored by FSFW staff was published on the open research publishing platform F1000 Research.⁷⁰ On this platform, once an article is published, its authors are responsible for identifying suitable reviewers, who should not be ‘close collaborators of the authors or in other ways personally, financially or professionally associated with them’.⁷¹ Despite his consultancy receiving grant funds from FSFW only 7 months earlier,³⁸ one of the two ‘invited reviewers’ was Klein, who gave a positive review of the piece and declared no COI. By contrast, the other reviewer was somewhat more negative, flagging the lack of ethical approval, an ‘untrue and misleading’ statement on tobacco products, and lack of clarity in the write up of analysis.⁷⁰

DAT is a member of the Committee on Publication Ethics (COPE),⁷² stating its editors and employees work hard to ensure

its content is ‘ethically sound’ and ‘closely follow the advice laid out’ by COPE, which includes requirements that ‘readers should be informed about who has funded research’ and that policies should be in place to ensure unbiased review.⁷³ The fact that several links between the tobacco industry and the authors of the papers in this special issue, the guest editor of the issue, and the editor-in-chief of the journal are not immediately apparent, highlights that operationalising such standards is difficult.

CHALLENGES AND RECOMMENDATIONS

In addition to previous signs that, despite its annual funding from PMI, the Foundation is failing to gain credibility,⁷⁴ the case studies presented here indicate that this struggle for scientific credibility continues. While occasional mistakes and omissions in declaring conflicts of interest may occur, the case studies collectively suggest that the Foundation and some of those it funds are resorting to repeated and multiple obfuscation when publishing its science.

They also highlight that current systems for governing tobacco industry COI within scientific publication often fail to work effectively. Reasons for this include that:

- ▶ PMI is channelling large amounts of research funding through FSFW, which has the effect of obscuring its industry origins.
- ▶ FSFW and its staff are failing to act transparently; are, on occasion, arguably seeking control over journal editorial processes (at times facilitated by PR firms) including editorial control of research the Foundation has funded; are seemingly looking to publish in journals with less stringent, or less stringently enforced, COI policies; and are using open research publishing platforms where they can select reviewers (and even then failing to comply with the platform’s restrictions).
- ▶ Third party organisations funded by the Foundation (such as CoEHAR) are failing to consistently declare their links to FSFW and to PMI.
- ▶ Some researchers at FSFW-funded organisations are failing to be transparent about their industry links, when authoring or peer-reviewing articles, and editing journals or special issues.
- ▶ Peer-reviewed journals’ and open research publishing platforms’ policies on funding and COIs are unstandardised, are sometimes not rigorously applied and their implementation relies largely on authors being fully compliant.

Solutions must be centred around better governance of tobacco industry COI in scientific publishing in the short term, and elimination of tobacco industry COI in science in the longer term.

Governance of tobacco industry COIs in scientific publishing

Grundy *et al* advocate for standardised reporting of COI and funding declarations across journals.⁷⁵ We recommend that as part of this, journals explicitly ask authors and editors (including those of special editions) whether they have any COI relating to the tobacco industry, and whether research has been funded (either directly or indirectly) by the tobacco industry. In the meanwhile, journals must be on high alert for science funded by tobacco industry third parties such as the Foundation. Their COI policies should preclude from publication not only science directly funded by the industry, but also—based on the tobacco industry’s historical use of scientific third parties to manufacture doubt about its products^{4 5}—that funded through third parties, with clear sanctions (ie, withdrawal of the paper) when authors breach this policy. The University of Bath’s

knowledge exchange platform, tobaccotactics.org, provides details of organisations and individuals with financial links to the tobacco industry, including through FSFW. Editors and reviewers could be encouraged to use this resource to identify COI in this area.

However, these case studies of the Foundation's dealings with IJERPH and DAT illustrate that for COI to be effectively governed, solutions cannot be left solely to journal staff. Grundy *et al* have also recently argued in the BMJ for a 'public, comprehensive, structured, author-centric database of...[researchers']... financial interests',⁷⁵ which would aid journal editors in identifying and excluding research funded by the tobacco industry and its affiliates.

We suggest this include details not only of direct research funding to authors, but also any funding received for non-research activities (speaking engagements, consulting services, travel to meetings and so on); any authorship of papers funded by the tobacco industry; and any affiliation with centres that receive tobacco industry funding—all of this pertaining to both tobacco corporations directly and their affiliates. This database should also include information on the financial interests of journal editors (if not already included due to their role as authors), since currently, although recommended by the Council of Science Editors,⁷⁶ editors are often not required to disclose their own COIs.⁷⁷ The IJERPH and DAT do not list information on their editors' competing interests, unlike The BMJ⁷⁸ and Tobacco Control,⁷⁹ for instance. Such a repository would require both independent oversight (Grundy *et al* suggest using the current ORCID system which identifies researchers using a persistent digital identifier) and mechanisms through which authors' undisclosed COIs could be reported (and independently verified).

Eliminating tobacco industry COIs in science

Beyond issues of transparency in scientific publishing however, and based on the history of scientific misconduct by the tobacco industry and those it funds,^{9 10} the ultimate goal must be to ensure the research community has scientific and financial independence from the industry and its third parties.

This will entail both enhancing researcher awareness of the continued dangers of partnering with the industry and implementing institutional policies to prohibit such relationships. Indeed, it has recently been argued that a civil society version of the WHO FCTC's Article 5.3 (which prohibits governments from collaborating with the tobacco industry) is needed, in order to protect 'organisations from associating with or lending support and credibility to the tobacco industry.'⁸⁰ Any conceptualisation of this should stipulate, at a minimum, that non-government organisations such as foundations, academic institutions and scientific journals should not work with tobacco corporations, and should also prohibit indirect relationships with the industry, such as those created through FSFW and its grantees.

In recent years, PMI has invested heavily in its new heated tobacco products, but as yet, there is no independent evidence that they are any safer than cigarettes.⁸¹ The robustness of PMI's own science on its 'next generation products' has recently been questioned,^{82 83} and overall, there are growing concerns that the tobacco industry's long history of research misconduct to hide the harms of cigarettes is now being repeated with its latest products.⁸⁴ This underlines the urgent need for high quality, independent research on new tobacco and nicotine products, which must be facilitated through a mechanism completely distinct from PMI's funding arrangement with the Foundation.

Box 1 Change to the International Journal of Environmental Research and Public Health's policy on publishing research with links to the tobacco industry

Original policy, November 2018: "IJERPH will not consider for publication papers reporting work funded, in whole or in part, by a tobacco company or tobacco industry organization or affiliate. Nor will the journal consider papers by authors who accept tobacco industry or affiliate funding, including funding for research costs and for all or part of any author's salary, or other forms of personal remuneration."¹⁷

Updated policy, February 2021 (underlining added by authors to highlight key changes) "IJERPH will not consider manuscripts for publication that report tobacco research funded, in whole or in part, by a tobacco company or tobacco industry organization or affiliate. For non-tobacco related research funded by the tobacco industry...authors should disclose any potential conflicts of interest"⁸⁵

NB As of 9 March 2021 this updated policy shows only in the 'instructions for authors'⁸⁵ section of the IJERPH's website; the main page detailing the policy still uses the original wording.¹⁷

Cohen *et al* have explored such mechanisms, and proposed that legally mandated industry financial contributions (taxes or tobacco manufacturer licensing fees) overseen by a government body could eliminate both the COI associated with working with the tobacco industry, and the risk of PR gains for the industry.³⁰ PMI's ability to fund the Foundation shows this is affordable. In the meanwhile, the case for the dismantlement of the FSFW, just as the TIRC, CIAR and Tobacco Institute were dismantled, is increasingly clear.

Addendum

On 7 February 2021, after our paper was accepted for publication, we were copied into an email from IJERPH's editorial office which stated that their original policy¹⁷ on the publication of tobacco industry-linked research may have been misunderstood. Its wording had therefore been updated to clarify that the journal in fact allows the publication of tobacco industry-funded research on subjects other than tobacco (see [box 1](#)).

However, the email suggests a more fundamental change in the IJERPH's stance on publishing tobacco industry-linked research - stating that IJERPH now also allows the publication of tobacco-related research from tobacco industry-funded researchers, as long as the particular research output is not funded by the industry. This change is not, however, reflected in the updated policy.⁸⁵

In relation to the Drugs and Alcohol Today (DAT) special issue detailed in case study three, on 26 February 2021, after being alerted to our paper as a result of a press release, the journal's publishers, Emerald Group Publishing Ltd, added an 'expression of concern' to all nine articles in the special issue, stating that 'credible concerns have been raised regarding the editorial process' of the articles and that investigation is ongoing.⁸⁶⁻⁹⁴

On the same day (over a year after its submission to the journal), one of the papers in the special issue also had an erratum added to say that it 'was not published with a funding acknowledgement, which was supplied at submission'.⁹² While the added 'acknowledgement' did mention FSFW as funder of both the 'Centre of Research Excellence: Indigenous Sovereignty and Smoking' and the Centre for Health Research and Education, it did not mention that FSFW is wholly funded by a tobacco corporation. Nor did it mention as a possible conflict that one

What this paper adds

What is already known

- ▶ Litigation in the United States forced the dissolution of three tobacco industry-funded third parties because of their role in spreading scientific misinformation about tobacco.
- ▶ In 2017, a new scientific organisation—the Foundation for a Smoke-Free World (FSFW)—was launched, funded entirely by tobacco corporation Philip Morris International. Many fear it similarly serves to benefit its funder's scientific and political agenda as it seeks to promote new (heated) tobacco products.

What important gaps in knowledge exist on this topic

- ▶ No published research has explored: (i) FSFW's scientific publishing practices, including the extent to which it is acting transparently and with scientific integrity (ii) How conflicts of interest (COI) are governed in the journals and publishing platforms FSFW targets.

What this paper adds

- ▶ We show FSFW and its grantees are resorting to repeated obfuscation when publishing their science.
- ▶ Existing systems for governing tobacco industry COI in science are not functioning effectively—we explain why, and propose solutions for better governing, and ultimately eliminating, tobacco industry COI in science.

of the co-authors was business partner of the guest editor of the special issue, Sudhanshu Patwardhan, although it is possible he may not have served as editor for this paper.

Twitter Tess Legg @bathtr, Miché Legendre @stopcorpabuse and Anna B Gilmore @bathtr

Acknowledgements Our appreciation to Dr Rosemary Hiscock and Heather Lusardi from the University of Bath, and Debby Sy from the Global Centre for Good Governance in Tobacco Control for their assistance.

Contributors All three authors conceived of the paper. TL read and analysed the documents. TL and ML drafted the paper, to which substantial contributions were then made by AG. All authors revised the paper. All authors take responsibility for the content of the paper.

Funding TL acknowledges the support of the South West Doctoral Training Partnership (SWDTP). ML acknowledges the support of Corporate Accountability. ABG acknowledges the support of Bloomberg Philanthropies' Stopping Tobacco Organizations and Products project funding (www.bloomberg.org). The opinions expressed are those of the authors alone. The funders had no role in study design, data collection, analysis, decision to publish, or preparation of the manuscript.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iDs

Tess Legg <http://orcid.org/0000-0003-3157-048X>

Anna B Gilmore <http://orcid.org/0000-0003-0281-1248>

REFERENCES

- 1 Tobacco Control Research Group. Tobacco Industry Research Committee: University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/tobacco-industry-research-committee/> [Accessed 09 Jun 2020].
- 2 Tobacco Control Research Group. Tobacco Institute: University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/tobacco-institute/> [Accessed 1 Oct 2020].
- 3 Tobacco Control Research Group. Center for Indoor Air Research (CIAR): University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/center-for-indoor-air-research-ciar/> [Accessed 09 Jun 2020].
- 4 National Association of Attorneys General. The master settlement agreement 1999. Available: <https://publichealthlawcenter.org/sites/default/files/resources/master-settlement-agreement.pdf>
- 5 United States District Court for the District of Columbia. Civil action No. 99-2496 (GK) order 1015 final judgement and remedial order 2014. Available: https://www.justice.gov/sites/default/files/civil/legacy/2014/09/11/ORDER_FINAL_0.pdf
- 6 Foundation for a Smoke-Free World. Frequently asked questions 2018. Available: <https://web.archive.org/web/20180529113727/https://www.smokefreeworld.org/about-us/frequently-asked-questions>
- 7 Evans-Reeves K. Addiction at any cost. Philip Morris International uncovered 2020. Available: https://exposetobacco.org/wp-content/uploads/STOP_Report_Addiction-At-Any-Cost.pdf
- 8 National Association of Attorneys General. Participating manufacturers under the master settlement agreement; 2020.
- 9 Brandt AM. Inventing conflicts of interest: a history of tobacco industry tactics. *Am J Public Health* 2012;102:63–71.
- 10 Bero LA. Tobacco industry manipulation of research. late lessons from early warnings: science, precaution, innovation EA report number 1/2013: European environmental agency; 2013.
- 11 King J, Yamey G, Smith R. Why journals should not publish articles funded by the tobacco industry. *BMJ* 2000;321:1074–6.
- 12 Godlee F, Malone R, Timmis A, et al. Journal policy on research funded by the tobacco industry. *Heart* 2014;100:2–3.
- 13 The PLoS medicine editors. A new policy on tobacco papers. *PLOS Medicine* 2010;7:e1000237.
- 14 Malone RE. Changing tobacco control's policy on tobacco industry-funded research. *Tob Control* 2013;22:1–2.
- 15 International Society of Addiction Journal Editors Ethics Committee. Ethical practice guidelines in addiction publishing: a model for authors, Journal editors and other partners, 2002. Available: <http://www.parint.org/isajewebsite/ethics.htm> [Accessed 7 Oct 2020].
- 16 International Journal of Environmental Research and Public Health. Announcements, 2020. Available: <https://www.mdpi.com/journal/ijerph/announcements> [Accessed 12 Nov 2020].
- 17 International Journal of Environmental Research and Public Health. The new International Journal of environmental research and public health (IJERPH) policy concerning tobacco company funding, 2018. Available: <http://web.archive.org/web/20210304144410/https://www.mdpi.com/1660-4601/15/12/2831/htm> [Accessed 9th March 2021].
- 18 Yach D. Special Issue '15 Years After the Framework Convention on Tobacco Control's Adoption: Time for Greater Urgency and Focus'. *Int J Environ Res Public Health* 2019 https://web.archive.org/web/20191027150237/https://www.mdpi.com/journal/ijerph/special_issues/Tobacco_Control_Adoption
- 19 Kalra A, Bansal P, Wilson D. Inside Philip Morris' campaign to subvert the global anti-smoking Treaty: Reuters, 2017. Available: <https://www.reuters.com/investigates/special-report/pmi-who-fctc/> [Accessed 1 Oct 2020].
- 20 World Health Organization. WHO statement on Philip Morris funded Foundation for a Smoke-Free World, 2017. Available: <https://www.who.int/en/news-room/detail/28-09-2017-who-statement-on-philip-morris-funded-foundation-for-a-smoke-free-world> [Accessed 09 Jun 2020].
- 21 Tobacco Control Research Group. Ruder Finn: University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/ruder-finn/>
- 22 Glantz S, Slade J, Bero LA. *The cigarette papers*. Berkeley: University of California Press, 1998.
- 23 Ruder & Finn. Public relations study for Philip Morris, Inc. truth tobacco industry documents, Bates No. 2021280871-2021280957, 1968. Available: <https://www.industrydocuments.ucsf.edu/docs/gggw0131>
- 24 Foundation for a Smoke-Free World. 990-PF return of private Foundation public inspection copy 2019, 2020. Available: http://web.archive.org/web/20200521205525/https://www.smokefreeworld.org/wp-content/uploads/2020/05/FSFW_2019-990-PF_Public-Inspection-Copy-1.pdf
- 25 Legg T, Peeters S, Chamberlain P, et al. The Philip Morris-funded Foundation for a Smoke-Free World: Tax return sheds light on funding activities. *Lancet* 2019;393:2487–8.
- 26 U.S. Food & Drug Administration. Fact sheet: FDA at a glance, 2019. Available: <https://www.fda.gov/about-fda/fda-basics/fact-sheet-fda-glance#:~:text=Program%20Funding&text=About%2055%20percent%2C%20or%20%243.1,%249.63%20per%20American%20per%20year> [Accessed 1 Oct 2020].
- 27 Truth Initiative. Who we are 2020. Available: <https://truthinitiative.org/who-we-are/our-history> [Accessed 09 Jun 2020].
- 28 World Health Organization Framework Convention on Tobacco Control. *Guidelines for implementation of article 5.3 of the WHO Framework Convention on Tobacco Control*, 2008.

- 29 Foundation for a Smoke-Free World. Eight criteria from Cohen, et al. for accepting tobacco industry funding, compared to the governance of the Foundation for a Smoke-Free World 2020. Available: http://web.archive.org/web/20200609162956/https://www.smokefreeworld.org/wp-content/uploads/2020/04/Cohen_Doc_03.26.20.pdf [Accessed 09 Jun 2020].
- 30 Cohen JE, Zeller M, Eissenberg T, et al. Criteria for evaluating tobacco control research funding programs and their application to models that include financial support from the tobacco industry. *Tob Control* 2009;18:228–34.
- 31 Cohen JE, Eissenberg T. Criteria not met for tobacco industry-supported Foundation, 2017. Available: <https://www.jhsph.edu/research/centers-and-institutes/institute-for-global-tobacco-control/news-and-media/Releases/lancet-letter/> [Accessed 09 Jun 2020].
- 32 Liberman J. *The new Philip Morris-funded Foundation for a Smoke-Free World.: independent or not?* McCabe Centre for Law and Cancer, 2018. <http://untobaccocontrol.org/kh/legal-challenges/new-philip-morris-funded-foundation-smoke-free-world-independent-not/>
- 33 van der Eijk Y, Bero LA, Malone RE. Philip Morris International-funded 'Foundation for a Smoke-Free World': analysing its claims of independence. *Tob Control* 2019;28:712–8.
- 34 GGTC. An open letter to the director general and executive board of the World Health Organization, 2019. Available: <https://www.vitalstrategies.org/wp-content/uploads/2019/01/Open-Letter-to-WHO.pdf> [Accessed 09 Jun 2020].
- 35 International Journal of Environmental Research and Public Health. Article types - Tobacco 2020. Available: https://www.mdpi.com/search?sort=pubdate&page_count=50&q=tobacco&journal=ijerph&featured=&article_types=&countries=
- 36 Caponnetto P, Salvina Signorelli M, Maglia M. Special issue 'Cyber Health Psychology and Psychotherapy: The Use of New Technologies in the Service of Mental Health', 2020 International Journal of Environmental Research and Public Health. Available: http://web.archive.org/web/20200521202955/https://www.mdpi.com/journal/ijerph/special_issues/Cyber_Health [Accessed 21 May 2020].
- 37 Tobacco Control Research Group. Centre of Excellence for the Acceleration of Harm Reduction (CoEHAR): University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/coehar/>
- 38 Foundation for a Smoke-Free World. 990-PF Return of Private Foundation public inspection copy 2018, 2019. Available: https://www.smokefreeworld.org/sites/default/files/uploads/documents/fsfw_2018_form_990-pf_public_inspection.pdf
- 39 Eclat SRL. Eclat, 2019. Available: <http://web.archive.org/web/20201204183703/https://www.eclatrb.com/> [Accessed 1 Oct 2020].
- 40 Ortis A, Caponnetto P, Polosa R, et al. A report on smoking detection and quitting technologies. *Int J Environ Res Public Health* 2020;17. doi:10.3390/ijerph17072614. [Epub ahead of print: 10 Apr 2020].
- 41 CoEHAR. About US: CoEHAR, 2020. Available: <http://web.archive.org/web/20200609151433/https://www.coehar.org/about-us/> [Accessed 09 Jun 2020].
- 42 Caponnetto P, Caruso M, Maglia M, et al. Non-Inferiority trial comparing cigarette consumption, adoption rates, acceptability, tolerability, and tobacco harm reduction potential in smokers switching to heated tobacco products or electronic cigarettes: study protocol for a randomized controlled trial. *Contemp Clin Trials Commun* 2020;17:100518.
- 43 Caponnetto P, Idrisov B, Signorelli MS. A 12-month randomised, double-blind, controlled, multicentre trial comparing changes in cigarette consumption after switching to high or low nicotine strength e-cigarettes in smokers with schizophrenia spectrum disorders: protocol for the genesis trial. *medRxiv* 2020.
- 44 Stopping Tobacco Organizations and Products. JUUL Labs, 2019. Available: https://exposetobacco.org/wp-content/uploads/2019/09/STOP_Juul.pdf
- 45 Tobacco Control Research Group. Riccardo Polosa: University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/riccardo-polosa/> [Accessed 09 Sep 2020].
- 46 International Journal of Environmental Research and Public Health Sections, 2020. Available: <http://web.archive.org/web/20200913163510/https://www.mdpi.com/journal/ijerph/sections> [Accessed 09 Sep 2020].
- 47 Health Psychology Research. Editorial board, 2020. Available: <http://web.archive.org/web/20201204185517/https://www.pagepressjournals.org/index.php/hpr/board> [Accessed 14 Nov 2020].
- 48 Health Psychology Research. About, 2020. Available: <https://www.pagepressjournals.org/index.php/hpr/about> [Accessed 14 Nov 2020].
- 49 Health Psychology Research. . publication ethics 2021, 2021. Available: <http://web.archive.org/web/20210309114505/https://www.pagepressjournals.org/index.php/hpr/about> [Accessed 09 Mar 2021].
- 50 Caponnetto P, Inguscio L, Saitta C, et al. Smoking behavior and psychological dynamics during COVID-19 social distancing and stay-at-home policies: a survey. *Health Psychol Res* 2020;8:9124.
- 51 Caponnetto P, Polosa R. Tobacco smoking, related harm and motivation to quit smoking in people with schizophrenia spectrum disorders (see also Erratum DOI: 10.4081/hpr.2020.9607). *Health Psychol Res* 2020;8:9042.
- 52 Pirrone C, Platania SM, Castellano S, et al. The role played by health resistance, coping response, and smoke damage perceptions in smoking threat appeal campaigns. *Health Psychol Res* 2020;8:8652.
- 53 Caponnetto P, Inguscio L, Saitta C. Appendix. Smoking behavior and psychological dynamics during COVID-19 social distancing and stay-at-home policies: a survey, 2020. Available: <http://web.archive.org/web/20201124212204/https://www.pagepressjournals.org/index.php/hpr/article/view/9124/8903> [Accessed 14 Nov 2020].
- 54 Caponnetto P, Polosa R, Robson D, et al. Appendix. tobacco smoking, related harm and motivation to quit smoking in people with schizophrenia spectrum disorders, 2020. Available: <http://web.archive.org/web/20201124171851/https://www.pagepressjournals.org/index.php/hpr/article/view/9042/8902> [Accessed 24 Nov 2020].
- 55 Bisso E, Signorelli MS, Milazzo M, et al. Immersive virtual reality applications in schizophrenia spectrum therapy: a systematic review. *Int J Environ Res Public Health* 2020;17:6111.
- 56 Li Volti G, Caruso M, Polosa R. Smoking and SARS-CoV-2 disease (COVID-19): dangerous liaisons or confusing relationships? *J Clin Med* 2020;9:1321.
- 57 Foundation for a Smoke-Free World. HST Reports - FFW-sponsored publications that are publicly available, 2020. Available: <http://web.archive.org/web/20200716090312/https://www.smokefreeworld.org/wp-content/uploads/2020/07/HST-Reports-and-Publications.pdf> [Accessed 16 Jul 2020].
- 58 Special issue: Framework convention on tobacco control: lessons learned on harm reduction and public health. *Drugs and Alcohol Today* 2020;20 <https://www.emerald.com/insight/publication/issn/1745-9265/vol/20/iss/3>
- 59 Resurchiefy. Drugs and alcohol today, 2020. Available: https://www.resurchiefy.com/all_ranking_details_2.php?id=15402 [Accessed 12 Nov 2020].
- 60 Emerald Publishers. Research and publishing ethics, 2020. Available: <http://web.archive.org/web/20200911133852/https://www.emeraldgroupublishing.com/our-services/authors/research-publishing-ethics> [Accessed 13 Sep 2020].
- 61 Philip Morris International. 10 year corporate affairs objectives and strategies: Reuters, 2014. Available: <https://www.documentcloud.org/documents/4333395-10-Year-Corporate-Affairs-Objectives-and.html> [Accessed 10 Oct 2020].
- 62 O'Leary R, Polosa R. Tobacco harm reduction in the 21st century. *Drugs Alcohol Today* 2020;20:219–34 <http://web.archive.org/web/20200715071530/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0007/full/pdf?title=tobacco-harm-reduction-in-the-21st-century> [Accessed 15 July 2020]
- 63 Glover M, Patwardhan P, Selket K. Tobacco smoking in three "left behind" subgroups: indigenous, the rainbow community and people with mental health conditions. *Drugs Alcohol Today* 2020;20:263–81 <http://web.archive.org/web/20200702081842/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0004/full/pdf?title=tobacco-smoking-in-three-left-behind-subgroups-indigenous-the-rainbow-community-and-people-with-mental-health-conditions> [Accessed 02 Jul 2020]
- 64 Tobacco Control Research Group. Centre for Research Excellence: Indigenous Sovereignty and Smoking (COREISS): University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/coreiss/> [Accessed 1 Oct 2020].
- 65 Tobacco Control Research Group. Centre for Health Research and Education (CHRE): University of Bath, 2020. Available: <https://tobaccotactics.org/wiki/centre-for-health-research-and-education-chre/> [Accessed 01 Oct 2020].
- 66 Yach D. Accelerating an end to smoking: a call to action on the eve of the FTC's COP9. *Drugs Alcohol Today* 2020;20:173–89.
- 67 Patwardhan S, Rose JE. Overcoming barriers to Disseminate effective smoking cessation treatments globally. *Drugs Alcohol Today* 2020;20:235–47 <http://web.archive.org/web/20200724130530/https://www.emerald.com/insight/content/doi/10.1108/DAT-01-2020-0001/full/pdf?title=overcoming-barriers-to-disseminate-effective-smoking-cessation-treatments-globally> [Accessed 24 Jul 2020] doi:10.1108/DAT-01-2020-0001
- 68 Foundation for a Smoke-Free World. Awarded Grants - ACK Consultants, 2020. Available: <http://web.archive.org/web/20201204193819/https://www.smokefreeworld.org/awarded-grants/ack-consultants/> [Accessed 4 Dec 2020].
- 69 Sowoya L, Akamwaza C, Matola AM, et al. Goodbye Nicky hello Goldie – exploring the opportunities for transitioning tobacco farmers into cannabis production in Malawi. *Drugs Alcohol Today* 2020;20:295–303 <http://web.archive.org/web/20200724130113/https://www.emerald.com/insight/content/doi/10.1108/DAT-04-2020-0021/full/pdf?title=goodbye-nicky-hello-goldie-exploring-the-opportunities-for-transitioning-tobacco-farmers-into-cannabis-production-in-malawi> [Accessed 24 Jul 2020]
- 70 Riah F, Rajkumar S, Yach D. Tobacco smoking and nicotine delivery alternatives: patterns of product use and perceptions in 13 countries. *F1000Res* 2019;8:80.
- 71 F1000 Research. How it works, 2020. Available: <https://f1000research.com/about> [Accessed 1 Oct 2020].
- 72 COPE. Members - Drugs and Alcohol Today, 2020. Available: <https://publicationethics.org/members/drugs-and-alcohol-today> [Accessed 1 Oct 2020].
- 73 Drugs and Alcohol Today. Author guidelines, 2020. Available: <https://www.emeraldgroupublishing.com/journal/dat#author-guidelines>
- 74 Legg T, Gilmore AB. Has the Foundation for a Smoke-Free World been a success up to now? In: Evans-Reeves K, ed. *Addiction at any cost: Philip Morris international uncovered: stop (stopping tobacco organizations and products)*, 2020.
- 75 Grundy Q, Dunn AG, Bero L. Improving researchers' conflict of interest declarations. *BMJ* 2020;368:m422.
- 76 Council of Science Editors. CSE's White Paper on Promoting Integrity in Scientific Journal Publications, 2018. Available: https://druwt19tzv6d76es3lg0qdo7-wpengine.netdna-ssl.com/wp-content/uploads/CSE-White-Paper_2018-update-050618.pdf

- 77 Bosch X, Pericas JM, Hernández C, *et al.* Financial, nonfinancial and editors' conflicts of interest in high-impact biomedical journals. *Eur J Clin Invest* 2013;43:660–7.
- 78 BMJ. Editorial Staff - Fiona Godlee, 2020. Available: <https://www.bmj.com/about-bmj/editorial-staff/fiona-godlee>
- 79 Tobacco Control. Editorial board, 2020. Available: <https://tobaccocontrol.bmj.com/pages/editorial-board/>
- 80 Daube M. The WHO Framework Convention on Tobacco Control – time for a civil society equivalent? *Public Health Res Pract* 2020;30:e3032018.
- 81 Gilmore AB, Branston JR. Philip Morris International: the beginning of the end? 2020. Available: <https://exposetobacco.org/news/pmi-agm/> [Accessed 1 Oct 2020].
- 82 Lasseter T, Bansal P, Wilson T. Scientists describe problems in Philip Morris e-cigarette experiments: Reuters. Available: <https://www.reuters.com/investigates/special-report/tobacco-iqos-science/> [Accessed 01 Oct 2020].
- 83 Organized Crime and Corruption Reporting Project. Unsmoking for health: OCCRP, 2020. Available: <https://www.occrp.org/en/loosetobacco/blowing-unsmoke/unsmoking-for-health> [Accessed 10 Oct 2020].
- 84 Gilmore AB, Braznell S. US regulator adds to confusion around heated tobacco products. *BMJ* 2020;370:m3528.
- 85 International Journal of Environmental Research and Public Health. Instructions for authors: MDPI, 2021. Available: <http://web.archive.org/web/20210309123749/https://www.mdpi.com/journal/ijerph/instructions> [Accessed 09 Mar 2021].
- 86 Solomon A. Gender, women, and the future of tobacco control. *Drugs Alcohol Today* 2020;20:249–62 <http://web.archive.org/web/20210226124425/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0005/full/pdf?title=gender-women-and-the-future-of-tobacco-control> [Accessed 26 Feb 2021]. doi:10.1108/DAT-02-2020-0005
- 87 Yurekli AA, Kovacevic P, Sunley E, *et al.* Government intervention in the market for electronic nicotine delivery systems (ends). The known, the unknown and challenges. *Drugs Alcohol Today* 2020;20:283–94 <http://web.archive.org/web/20210226145033/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0006/full/pdf?title=government-intervention-in-the-market-for-electronic-nicotine-delivery-systems-ends-the-known-the-unknown-and-challenges> [Accessed 26 Feb 2021]. doi:10.1108/DAT-02-2020-0006
- 88 Patwardhan S, Rose JE. Overcoming barriers to Disseminate effective smoking cessation treatments globally. *Drugs Alcohol Today* 2020;20:235–47 <http://web.archive.org/web/20210226124638/https://www.emerald.com/insight/content/doi/10.1108/DAT-01-2020-0001/full/pdf?title=overcoming-barriers-to-disseminate-effective-smoking-cessation-treatments-globally> [Accessed 26 Feb 2021]. doi:10.1108/DAT-01-2020-0001
- 89 Rajkumar S, Adibah N, Paskow MJ, *et al.* Perceptions of nicotine in current and former users of tobacco and tobacco harm reduction products from seven countries. *Drugs Alcohol Today* 2020;20:191–206 <http://web.archive.org/web/20210226124745/https://www.emerald.com/insight/content/doi/10.1108/DAT-04-2020-0022/full/pdf?title=perceptions-of-nicotine-in-current-and-former-users-of-tobacco-and-tobacco-harm-reduction-products-from-seven-countries> [Accessed 26 Feb 2021]. doi:10.1108/DAT-04-2020-0022
- 90 Sowoya L, Akamwaza C, Matola AM, *et al.* Goodbye Nicky hello Goldie – exploring the opportunities for transitioning tobacco farmers into cannabis production in Malawi. *Drugs Alcohol Today* 2020;20:295–303 <http://web.archive.org/web/20210226145403/https://www.emerald.com/insight/content/doi/10.1108/DAT-04-2020-0021/full/pdf?title=goodbye-nicky-hello-goldie-exploring-the-opportunities-for-transitioning-tobacco-farmers-into-cannabis-production-in-malawi> [Accessed 26 Feb 2021]. doi:10.1108/DAT-04-2020-0021
- 91 O'Leary R, Polosa R. Tobacco harm reduction in the 21st century. *Drugs Alcohol Today* 2020;20:219–34 [http://web.archive.org/web/20210226125201/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0007](http://web.archive.org/web/20210226125201/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0007/full/pdf?title=tobacco-harm-reduction-in-the-21st-century) [Accessed 26 Feb 2021]. doi:10.1108/DAT-02-2020-0007
- 92 Glover M, Patwardhan P, Selket K. Tobacco smoking in three “left behind” subgroups: indigenous, the rainbow community and people with mental health conditions. *Drugs Alcohol Today* 2020;20:263–81 <http://web.archive.org/web/20210226125329/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0004/full/pdf?title=tobacco-smoking-in-three-left-behind-subgroups-indigenous-the-rainbow-community-and-people-with-mental-health-conditions> [Accessed 26 Feb 2021]. doi:10.1108/DAT-02-2020-0004
- 93 Kumar N, Janmohamed K, Jiang J, *et al.* An overview of tobacco control interventions in the Global South. *Drugs Alcohol Today* 2020;20:207–18 <http://web.archive.org/web/20210226145403/https://www.emerald.com/insight/content/doi/10.1108/DAT-04-2020-0021/full/pdf?title=goodbye-nicky-hello-goldie-exploring-the-opportunities-for-transitioning-tobacco-farmers-into-cannabis-production-in-malawi> [Accessed 26 Feb 2021]. doi:10.1108/DAT-03-2020-0013
- 94 Yach D. Accelerating an end to smoking: a call to action on the eve of the FCTC's COP9. *Drugs Alcohol Today* 2020;20:173–89 <http://web.archive.org/web/20210226125643/https://www.emerald.com/insight/content/doi/10.1108/DAT-02-2020-0012/full/pdf?title=accelerating-an-end-to-smoking-a-call-to-action-on-the-eve-of-the-fctcs-cop9> [Accessed 26 Feb 2021].