

Tobacco smoking in three “left behind” subgroups: indigenous, the rainbow community and people with mental health conditions

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Abstract

Purpose – This paper aims to investigate the extent to which three subgroups – people with mental health conditions, people belonging to sexual minority and gender groups and Indigenous peoples – have been “left behind” by countries implementing the World Health Organization’s Framework Convention on Tobacco Control.

Design/methodology/approach – A general review of electronic bibliographical databases to provide an overview of smoking prevalence among the three groups and interventions designed specifically to reduce their smoking rates.

Findings – Although explanations and specific rates differ, two trends are consistent across all three groups. First, information reported in the past two decades suggests that smoking prevalence is disproportionately high among people with mental health conditions, and in the rainbow and indigenous communities. Second, most cessation programmes are targeted at majority politically dominant groups, missing opportunities to reduce smoking rates in these minority communities.

Research limitations/implications – There is a general dearth of data preventing detailed analysis. Better data collection efforts are required. Trials to identify effective smoking reduction interventions for marginalised groups are needed.

Social implications – It is socially unjust that these groups are being systematically ignored by tobacco control initiatives. A failure to equitably reduce tobacco harms among all groups across society has contributed to the perceived concentration of smoking in some subgroups. The increasing stigmatisation of people who smoke then adds a marginality, compounding the negative effects associated with belonging to a marginalised group. Ongoing marginalisation of these groups is an important determinant of smoking.

Originality/value – Cross-case analysis of neglected subgroups with disproportionately high smoking rates suggests social marginalisation is a shared and important determinant of smoking prevalence.

Keywords Tobacco, Smoking, Indigenous, Mental health, LGBTQI, Inequity

Paper type General review

Introduction

The World Health Organization’s (WHO) *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020* target is to reduce the prevalence of current tobacco use by 30% in persons aged 15 and older between 2010 and 2025 (WHO, 2013). Achieving this target will contribute to reducing the estimated seven million smoking-related global deaths per annum. A recent progress report noted that even in countries with advanced Framework Convention on Tobacco Control (FCTC) programmes in place, some people are being “left behind, specifically those from marginalised groups” (WHO, 2019, p. 39).

(Information about the authors can be found at the end of this article.)

Received 3 February 2020

Revised 17 April 2020

Accepted 20 April 2020

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Expression of concern: The publisher of the journal *Drugs and Alcohol Today* is issuing an Expression of Concern for the following article Glover, M., Patwardhan, P. and Selket, K. (2020), “Tobacco smoking in three ‘left behind’ subgroups: indigenous, the rainbow community and people with mental health conditions”, published in *Drugs and Alcohol Today*, Vol. 20 No. 3, pp. 263–281, to inform readers that credible concerns have been raised regarding the editorial process for this article. An investigation is ongoing and is currently unresolved. Further information will be provided by *Drugs and Alcohol Today* as it becomes available.

Erratum: It has come to the attention of the publisher that the article, Glover, M., Patwardhan, P. and Selket, K. (2020), “Tobacco smoking in three ‘left behind’ subgroups: indigenous, the rainbow community and people with mental health conditions”, published in *Drugs and Alcohol Today*, Vol. 20 No. 3, pp. 263–281 was not published with a funding acknowledgement, which was supplied at submission.

Marginalised groups are created when a politically dominant group institutionalises divisions in society to ensure that societal benefits disproportionately advantage the dominant group (for more on the unfair distribution of the social determinants of health, see for example, [Marmot and Bell, 2012](#)). All societal structures, including the political, judicial, educational and social welfare systems, are used to set and enforce laws and policies that consistently protect this advantage ([Greene, 2019](#)). Social norms reflect the beliefs and behaviours of the politically dominant group, and if they are not numerically dominant, they will be proscribed as morally right. People who are marked as different from and not members of the dominant group experience barriers to civil participation, police protection, education, employment and health care. Historically, common divisions have been based on gender, sexuality, skin colour, ethnicity and religious beliefs. From time to time, societies change who is accepted and who is not. For example, many countries used to operate as if heterosexuality was the only sexual orientation. Now several countries have not only outlawed discrimination on the basis of sexual orientation, they have legalised same-sex marriage. Despite increased international commitment to human rights, even the most “advanced” societies still use stigmatisation to mark and exclude some groups of people.

There are compounded risks for people categorised as belonging to multiple marginalised groups. First, there is risk of ill-health due to the negative psychological and physical effects of being stigmatised, socially excluded and discriminated against. Second, there are the subsequent and compounding ill-effects of the disproportionately negative economic and social determinants created for them as a result (for an extensive account, see [Brewis and Wutich, 2019](#)). Intersectionality theory proposes that complex social inequalities result from the overlap and interaction of distinct marginalities. That is, the impacts do not function in mutually exclusive ways, and neither are the effects simply additive ([Baah et al., 2018](#)). Negative social and economic determinants of health are further compounded by a lack of culturally salient interventions or treatments proven effective for marginalised groups.

This paper focuses on three commonly recognised marginalised communities: people with mental health conditions, people belonging to sexual minority and gender groups (hereafter referred to as rainbow communities) and indigenous peoples. These communities exemplify groups who have high smoking rates relative to the often celebrated FCTC-driven low national rate in their countries. These groups have been chosen because they are disparate, suggesting that perhaps it is not just group-specific determinants that explains their disproportionately high smoking rates. Identifying barriers to tobacco use reduction for these groups in FCTC-advanced nations could help to prevent the same inequitable results from being duplicated in countries advancing their tobacco control programmes.

Method

Harm reduction as a paradigm underpins the design of this study. Harm reduction is a critical theory that focuses on the well-being needs of individuals and communities, recognising the complex interplay of personal, familial, social and economic determinants that impact personal agency. Grounded in an ethic of non-judgemental non-coercive service, the voice of people at risk of harm from the use of drugs, or participation in behaviours associated with the development of disease or injury, such as smoking tobacco, are considered essential to the design and implementation of acceptable interventions and policies that can empower minimisation of harm. Harm reduction is essentially pragmatic. Given that the ultimate goal of the FCTC was to reduce chronic disease and avoidable deaths due to tobacco use, and that the majority of that morbidity and mortality is associated with the act of smoking tobacco, this paper focuses on tobacco smoking.

The aim of this general review is to:

- give an overview of the state of knowledge on smoking prevalence in the three communities;

- identify some of the socio-historical and economic smoking determinants and barriers to prevalence reduction for these communities; and
- identify recommendations for reducing the inequity in tobacco control outcomes these groups experience.

Electronic bibliographical databases, such as Google Scholar, the most comprehensive collection of scholarly papers (Gusenbauer, 2018) and general internet searches for grey-literature reporting on smoking prevalence rates and smoking cessation interventions were conducted for each community of focus by each topic expert. An overview summarising the literature for each community was written. An iterative process of reading and re-reading across the cases was then used to identify similarities in determinants of smoking, barriers to cessation and recommendations for improved intervention.

Smoking among people with mental health conditions

“Mental health conditions comprise a broad range of psychological conditions [...] characterised by a combination of abnormal thoughts, emotions, behaviour and relationships with others” (ASH, 2019a, p. 1). Smoking rates among people with a mental health condition are disproportionately higher than average state and country smoking rates across the world. The association between smoking and mental health conditions becomes stronger relative to the severity of the mental health condition, with the highest levels of smoking found in psychiatric in-patients. People with mental health conditions die on average 10–20 years earlier than the general population, and smoking is the single largest factor accounting for this difference (ASH, 2016).

In Australia in 2016, daily smokers were more than twice as likely to have been diagnosed or treated for a mental health condition than people who had never smoked (29% compared with 12%) (Greenhalgh *et al.*, 2018). In the USA, a Centers for Disease Control and Prevention (CDC) analysis found that “approximately 1 in 4 (or 25%) of adults in the USA have some form of mental illness or substance use disorder, and these adults consume almost 40% of all cigarettes smoked by adults” (CDC, 2020a, p. 1). In the UK, “it is estimated that around 30% of smokers have a mental health condition, and more than 40% of adults with a serious mental illness smoke” (ASH, 2019a, p. 1). In a nationally representative cross-sectional study in Singapore, the prevalence of nicotine dependence in patients with mood disorders ranged from 50 to 70%, compared with 25% in the general population in other studies (Shahwan *et al.*, 2019). Reliable nationally representative data on smoking prevalence among mentally ill patients from low and middle-income countries is not available.

Barriers to cessation

People with mental health conditions are more likely to experience stressful living conditions, have low annual household income and lack access to health insurance, health-care and smoking cessation aids and support. All of these factors make it more challenging for mental health patients to stop smoking (CDC, 2013).

Additionally, smoking has historically been embedded in the culture of mental health services, both among staff and patients. As a result, smoking among mental health patients was widely expected and accepted, and still is in many countries. Mental health professionals (MHPs) are often reluctant to support their patients to stop smoking, due to widely held misconceptions regarding the necessity and appropriateness of smoking cessation interventions in mental health care. Many MHPs are not aware that smoking can increase metabolism of many antipsychotic drugs making them less effective, so increased dosages are required to achieve the desired therapeutic effect. This can lead to more side effects for smokers with severe mental illness on antipsychotic drugs. Specifically, MHPs

hold intrinsic biases regarding patients' abilities and motivations to quit, and many believe smoking cessation is too much for patients to take on (Sheals *et al.*, 2016). This is likely to have a direct impact on patients, as advice from health professionals is an effective trigger of quit attempts among people who smoke. Staff who smoke are more likely to have reservations about the importance of smoke-free policies and the treatment of nicotine dependence among patients (Ratschen *et al.*, 2009). In the UK, until recently, even though smoke-free policies have been part of National Health Service (NHS) ethos, staff in mental health settings often used cigarettes as tools to reward or punish patients (Johnson *et al.*, 2010; Ratschen *et al.*, 2011).

Smoking cessation in mental health: a policy-practice gap

Despite psychiatric patients forming a significant percentage of total smokers in most countries, national guidelines that specifically support smoking cessation in mental health patients are available only in a few countries, such as the UK and New Zealand (Ministry of Health, 2014).

The UK's NHS mental health trust sites were to be made smoke-free in 2018; however, a year later, 20% of mental health trusts did not have a comprehensive smoke-free policy. Over half (55%) of trusts were not systematically asking on admission whether patients smoked – thus missing out on opportunistically offering cessation support (ASH, 2019b). It is often noted that many NHS trusts are saying they are “smoke-free” by merely not allowing their patients to smoke on the premises, but that temporary and forced abstinence does not lead to sustained abstinence from smoking once back in the community. Mental health inpatients who are allowed to go off the premises for a short duration, either with or without a member of staff, are often not given enough encouragement or support to cut down or stop smoking. Mental health patients are often inpatients for a long duration of time (months to years), and this can be the best opportunity to provide support and choice of cessation products for triggering and sustaining a quit attempt. Unfortunately, the intention behind the implementation of smoke-free policies is being lost in practice.

In India, nicotine dependency is highly prevalent among people with psychiatric disorders, but diagnosis and treatment of nicotine dependence is largely neglected (Pal and Balhara, 2016).

Recommendations

Despite co-morbidity making it harder to stop smoking, many mental health patients want to quit. The SCIMITAR+ trial (Gilbody *et al.*, 2019) showed that successful cessation efforts are possible with bespoke interventions targeted for mental health patients. A cessation-supportive environment needs to be created for mental health patients and their families to feel confident about seeking support from all available resources for stopping smoking. To support mental health patients at the point of care, influencers like MHPs need to be empowered and upskilled on the latest evidence-based approaches to smoking cessation. The results of a survey of 267 MHPs in Australia emphasised the importance of this, and the need for providing smoking cessation training to MHPs (Sharma *et al.*, 2018).

Parity of esteem principle

Mental health patients who smoke have an equal right to good physical health, and they deserve to get access to effective smoking cessation support just like the rest of the population. Interventions should be evidence based, comprehensive, product agnostic and offer a choice of medications and behavioural support. Where legal, access to risk-reduced alternatives to smoking such as e-cigarettes, smokeless tobacco with greatly reduced tobacco-specific nitrosamines and tobacco heating devices, should be supported.

Smoking and cessation in the rainbow communities

Rainbow communities are inclusive of peoples with varied sexual and gender identities and orientations, including identities specific to some cultures. Members of rainbow communities experience disproportionately higher rates of smoking, compared to their more populous politically and socially dominant heterosexual counterparts. There is a dearth of information on smoking prevalence rates among rainbow communities globally and population data that quantifies the number of people in rainbow communities is mostly lacking (Berg *et al.*, 2011; Shahab *et al.*, 2017; Ortiz-Hernandez *et al.*, 2009).

Smoking prevalence among peoples in the rainbow communities in Australia and the USA is reportedly 1.5 to 2 times that of the national population (Azagba *et al.*, 2014; Blosnich *et al.*, 2013; Kuang *et al.*, 2004; Lee *et al.*, 2009; King *et al.*, 2012). In Australia, a smoking prevalence of 26.4% among lesbians and 27.2% among bisexual women was disproportionately higher than the rate for heterosexual women (23.7%) (Praeger *et al.*, 2019). Smoking prevalence among Australian women who identified as queer or pansexual was reportedly 67% higher than the rates for Australian lesbian and/or bisexual women (Berger and Mooney-Somers, 2015). Smoking prevalence among Australian men who have sex with men was 40% higher than the rates for Australian lesbian and/or bisexual women (Berger and Mooney-Somers, 2015). Conversely, a recent UK study found that smoking rates had dropped for lesbian and gay men but were still high for both bisexual men and women (Jackson *et al.*, 2020). Other gender minorities were not accounted for.

One US study found that people in rainbow communities started smoking much earlier (before the age of 15) than their heterosexual counterparts (Schuler and Collins, 2019). In 2019, ASH New Zealand's annual survey of tobacco use among young people aged 14–15 years old, for the first time included "gender diverse" when asking about gender. Findings showed that gender diverse youth were three times more likely to have tried smoking tobacco than female students (Walker *et al.*, 2020).

Limited data exist on smoking prevalence among the transgender population, but one US study reported disproportionately higher rates of smoking among transgender people compared to cisgender adults (this included both gay and heterosexual people) (Buchting *et al.*, 2017). Because smoking prevalence research does not typically differentiate between gender identities (e.g. transgender, intersex, nonbinary) and sexual orientations, tobacco use prevalence cannot be reported for these groups. Almost no studies have been done on the prevalence of tobacco use among intersex peoples. A further limitation is that much of the smoking prevalence data on rainbow populations has been collected in Western European countries.

Rainbow statistics: challenges

Determining smoking prevalence for rainbow communities can be challenging because sexual identities and orientation, unlike ethnicity, may shift and change over time. Because new identities are being ideologically and corporally reproduced, a fixed reading of someone's sexual identity and/or orientation can be difficult to determine. This can make collecting data more complicated but not impossible.

Another challenge is the concern that asking respondents about their sexuality and/or if they are other than male or female might increase non-response bias. Some researchers avoid collecting sexuality or non-binary gender data, arguing that it is either not that important and/or that it might offend heterosexual respondents, introducing further bias if they refuse to participate (Sell, 2017). Notably, this did not undermine school participation in ASH New Zealand's 2019 Year 10 survey, mentioned above. Of invited schools, 53% agreed to participate in 2019 which is in line with previous year rates ranging from, for example, 44% in 2011 to 54% in 2016 (ASH, 2019c). To minimise marginalisation of the rainbow communities' experiences, Sell (2017) recommends studies oversample this

population to ensure data is collected. Quality sexual orientation and gender identity data are essential for building a greater understanding of the determinants of smoking in rainbow communities and for informing the design of effective interventions.

Why are rainbow communities experiencing slower reduction in smoking prevalence?

Disproportionately high smoking prevalence among minority groups is more evident in lower- and middle-income countries (Scragg *et al.*, 2014; Rosario *et al.*, 2014; Shahab, *et al.*, 2017). As a minority group, the rainbow population experiences higher levels of discrimination, violence and economic hardship. This increases their risk of drug use, suicide and experiencing what is commonly referred to as “minority stress” (Gamarel *et al.*, 2016; Vogel *et al.*, 2019). Minority stress is associated with extreme and micro levels of discrimination, internalised prejudice, fear, thwarted belongingness and hyper-vigilance. In response to these conditions, minority stress has been linked to depression, anxiety, substance abuse and suicide (Brewster *et al.*, 2013; Jackson *et al.*, 2020).

It was expected that as countries became more inclusive and tolerant of rainbow communities, discrimination would decline, which would lead to reductions in risky behaviours such as smoking. A study investigating the correlation of positive gender and sexual identity policies and reduction in at-risk behaviours, between 1998 and 2013 in the USA and Canada, found that while social acceptance and improved attitudes had occurred, this had not translated into a reduction in at-risk behaviours (Fish *et al.*, 2019).

Individuals who belong to more than one marginalised group are at risk for greater severity of minority stress. This can impact on smoking prevalence and cessation behaviour. For example, smoking cessation rates among rainbow communities are much lower for members who additionally belong to an ethnic minority group (Eliason *et al.*, 2012). Research attempting to determine the contribution of intersecting oppressions of, for instance, race, class and sexuality, to smoking prevalence found that socioeconomic inequality was strongly associated with smoking prevalence (Amroussia *et al.*, 2019). Rather than impacting in a cumulative way, the relationship between stigmatised identities was complex, supporting the need for more research to understand the determinants of smoking in rainbow communities (Amroussia *et al.*, 2019).

Cessation for rainbow communities

Culturally appropriate smoking cessation programmes have been shown to be effective among minority groups (Schwappach, 2009). These programmes need to attend to the determinants of smoking for rainbow community members, including minority stress, offer responses to discrimination and build the capacity of communities to support members who stop smoking, so they can continue to be active in queer activities (Schwappach, 2009; Smith *et al.*, 2018). In many countries, adult rainbow venues, such as bars and nightclubs, are significant sites for socialising and smoking tobacco is a deeply embedded part of that culture (Gerend *et al.*, 2017; Jackson *et al.*, 2020; Roberts *et al.*, 2017; Wheldon *et al.*, 2018).

In Western countries, there is an absence of rainbow led cessation programmes (Baskerville *et al.*, 2018; Matthews *et al.*, 2019a). Where they do exist, it has been suggested that smoking cessation interventions that account for sexual orientation need to also be ethnically appropriate and tailored for different age, gender and sexuality groups and be sex diversity appropriate (Eliason *et al.*, 2012). Consistent with a harm reduction paradigm, cessation programmes for distinct groups need to be developed by them, or at least in collaboration with them. Programmes that acknowledge intersectionality might be more likely to ensure that rainbow indigenous peoples and people of colour are offered culturally based and acceptable programmes, and not merely white homonormative

programmes (Matthews *et al.*, 2019b). The use of language, cultural norms and values held by rainbow people are an important design element to be considered (Berger and Mooney-Somers, 2015; Matthews *et al.*, 2019b).

Staff members in cessation programmes for rainbow communities need to be as diverse as the communities they are offering services to. Where this is not possible, staff should undertake cultural competency training (Lukowski *et al.*, 2017). Identifying and emphasising community as family can be important in certain spaces as many rainbow peoples “often highly value their ‘chosen families’” (Vogel *et al.*, 2019, p. 17). Interventions conducted via social media sites have been identified as having potential to deliver effective cessation support to younger people (Ramo *et al.*, 2015; Sanders-Jackson *et al.*, 2018). Social media is also cost-effective and allows for engagement across a diverse range of groups (Ryan, 2013).

Smoking and cessation among indigenous populations

People recognised as indigenous live in over 90 countries around the world. Numbering around 476 million, indigenous people make up 5% of the world's population (United Nations, 2020). Indigenous peoples are defined here as the predominant people who were resident and holding sovereignty (governance) in a land prior to another cultural group taking over, or dominating, governance. Usually this did not occur with the consent of the indigenous people and the means used to achieve political dominance has resulted in indigenous people making up 19% of the poorest peoples of the world (United Nations, 2020). Indigenous peoples are diverse and live in widely diverse countries that vary in their political systems, dominant social ideology, religions, climate and ecology. Indigenous people exist in some of the richest and some of the poorest nations in the world. A few populations are a majority and have some form of self-governance. Some indigenous communities live as recognised minorities. Others are at risk of cultural erasure, or worse, genocide.

Looking backwards to go forwards

Indigenous people have used tobacco in various ways for hundreds of years, and some – in North America, the Caribbean and northern South America – for a lot longer. The main type of tobacco smoked today originated in the Americas. Smoking tobacco, which was only one way that tobacco was used, dates back around 3,700 years (Carmody *et al.*, 2018). Other plants containing nicotine also existed and were used by other indigenous peoples on other continents, such as pituri used by the Aboriginal people of Australia (Lockyer, 2013). This history of use is important, because the Eurocentric tobacco control sector commonly uses the concept of an epidemic to describe a pattern of initial low but rising smoking prevalence mainly among men, which in the second stage rises rapidly and uptake among women begins (Thun *et al.*, 2012). Rising mortality from smoking-related diseases triggers a third stage when prevalence flattens and turns downwards. Reduction rates continue for men, and women also begin to stop smoking in Stage 4. While the architects of the model acknowledge it is based on the experience in developed nations, the model does not reflect the experience of indigenous people.

After many more hundreds of years of tobacco use, the picture for indigenous peoples living in America, the Arctic Circle and across Oceania and the Pacific, is very different. The gender difference typical in much of the rest of the world, does not appear to exist anymore, if it ever did. There is some evidence that restrictions on female smoking, which are or were common throughout Asia, Africa, the Middle East and pre-First World War Europe, did not exist. For example, among the Māori of New Zealand, when tobacco was introduced in the late 1700s to early 1800s, both Māori men and women are believed to have taken up smoking at the same time (Reid and Pouwhare, 1991).

The disproportionately high smoking rates in some indigenous populations is partly historical. That is, when the WHO began to monitor smoking prevalence globally, some disparities in prevalence by ethnicity and sex were already vast. A socially unjust disparity has emerged in some Western European countries as governments have responded to the Eurocentric-based FCTC strategies. For example, in New Zealand, reduction in smoking has occurred among New Zealand Europeans and Māori at almost a similar pace. But little has been done to specifically reduce the pre-existing disparity and the cumulative effects of colonisation involving ongoing stigmatisation, institutionalised racism and multiple negative economic and social determinants that present a significant barrier to quitting (Glover *et al.*, 2013). The politically dominant European New Zealanders typically oppose positive discrimination that would allow the authorities directing the tobacco control programme to focus resources on reducing inequities in smoking prevalence (Sibley and Liu, 2004). While they continue to do that, the historically embedded disparities can be expected to remain.

Smoking prevalence among indigenous peoples

Globally, data – any data – on indigenous peoples are inconsistently collected and/or reported. Some countries have reliable population statistics for ethnic subgroups. Other countries, such as Sweden (OECD, 2019, p. 30), France (Simon, 2015) and Rwanda (Hartley, 2015), disallow reporting by ethnicity. If ethnicity data are not reported, smoking prevalence by ethnicity rarely exists either.

In contemporary times, diseases associated with smoking commercial tobacco, as opposed to limited and varied traditional uses of tobacco, have become the largest preventable cause of premature death among many indigenous peoples (Glover *et al.*, 2013; Tjepkema *et al.*, 2011; Upton *et al.*, 2014). Smoking prevalence among the different indigenous people of the world ranges from very low – typically in countries naive to tobacco – to extremely high. For example, 83% of Yolngu men in remote Arnhem Land communities in Australia smoke (Clough *et al.*, 2011). Smoking prevalence appears to be disproportionately high among indigenous people compared to the dominant ruling ethnic group in countries colonised by European empires (Table 1). Mostly, there is a lack of information about smoking prevalence and cessation behaviour among indigenous people.

Anecdotal reports suggest that Sámi have switched from smoking to snus at the same or at a greater rate than the non-Sámi Nordic people across Scandinavia (Glover, 2019a, 2019b), but the restriction on reporting by ethnicity prevents confirmation of this.

In Russia, there are 47 recognised indigenous peoples. Reporting of their smoking prevalence has been intermittent over the past few decades, with no consistent data collection across all peoples in the same year. Smoking prevalence varies greatly by sex and region ranging from reported rates for 2015 of 23.7% among Evenk females [Republic of Sakha (Yakutia)] to 74% among male Nenets (Nenets Autonomous Area) in 2010–2011 (Merkin *et al.*, under review).

Some determinants of higher smoking rates, such as rurality, are likely to be common in indigenous communities. For example, 49% of Australian and Torres Strait Island peoples living remotely smoked, compared to 35% who lived in non-remote areas (ABS, 2019). One reason for this inequity is that smoking is reducing in non-remote areas, while there is no significant change for people who live in remote areas (ABS, 2019).

Smoking while pregnant is also disproportionately high among a number of indigenous people (Gould, *et al.*, 2017). In 2015, 37% of Māori women smoked during pregnancy (New Zealand Government, 2019). Among Aboriginal and Torres Strait Islander women in Australia, 44.3% smoked during pregnancy (2017 age-standardised) [Australian Institute of Health and Welfare (AIHW), 2019].

Table 1 Examples of smoking prevalence among indigenous people by country and sex

Country, indigenous group and smoking prevalence	Male	Female	Total ^a
<i>Australia</i>			
Aboriginal and Torres Strait Islander, combined daily, 2014/15, 15yrs+ (van der Sterren et al., 2019)	41.3%	35.5%	
2018/19, 15yrs+, current smokers (37% daily, 3% non-daily) (ABS, 2019)	39%	36%	
<i>Canada</i>			
Indigenous, 2013/14, 12yrs+			34.3%
Inuit, 2012, 15yrs+	51%	53%	
<i>Fiji</i>			
iTaukei, 2011, 15yrs+, current (Centre of Research Excellence: Indigenous Sovereignty and Smoking, 2019)	27%	9.5%	
<i>India</i>			
Koraga, current smoking (no age) (Aluckal, 2017)	51.3%	4.9%	
<i>Kalaallit Nunaat</i> (Greenland)	43.4%	56.7%	
Kalaallit (whole population, majority are Inuit) (Glover, 2019)			
<i>New Zealand</i>			
Maori, 2017/18, current including daily, 15yrs+ (Ministry of Health, 2019)	29.8%	36.8%	
<i>Norway</i>			
Sámi resident in Norway, 2011–2012, 18–69 years	20.7%	20.4%	
<i>Taiwan</i>			
2008, 20yrs+, current (Tsai et al., 2016)	48.8%	51.2%	
<i>USA</i>			
non-Hispanic American Indians/Alaska Natives, 2018, 18yrs/+, current	19%	24%	
Native Hawaiians, 2016			27%
Native Hawaiian or other Pacific Islander, 2018 (CDC, 2020b)			22.6%
Current smoking, 18yrs+, 2000–2009, comparing:			
American Indians Northern Plain	42.1	42.1	
American Indians Southwest (Kunitz, 2016)	18.8	14.8	

Notes: ^aSome countries only report a combined indigenous male and female average smoking prevalence. Caution is needed when interpreting totals averaged across males and females. If tobacco use among women has been historically socially and culturally restricted to almost zero, an average including women may under-represent how high prevalence is among men. For several Indigenous peoples, women's smoking rates are higher

Tobacco control interventions to reduce smoking among indigenous peoples

In some countries, a considerable amount of research has been conducted into smoking cessation interventions ([EY-Parthenon, 2018](#)). There remains limited evidence and conflicting perceptions of the effectiveness of the predominantly Western European tobacco control interventions for indigenous people ([Gifford and Bradbrook, 2009](#); [Minichiello et al., 2016](#); [Chamberlain, et al., 2017](#); [Maddox et al., 2019](#)).

Fundamental to understanding the differential effectiveness of tobacco control measures for different groups is recognition that the underpinning behaviour change theories are derived from the dominant euro-Western and American imperialist academy. Critics of the ethnocentric global tobacco control programme ([Blum and Solber, 1995](#); [Greaves, 1995](#)) date back to pre-FCTC days. [Robinson et al. \(1995\)](#) expressed concern about the perverse effects of the ethnocentric context within which tobacco control capacity in the USA was being developed. Even then they noted that this was resulting in inequitable attention and resource distribution by ethnicity. Members of minority groups, including Native Americans and Alaskan Native peoples, were under-represented as staff, leaders and researchers across tobacco control. Unfortunately, little has changed despite the FCTC specifically recognising “the need to take measures to promote the participation of indigenous individuals and communities in the development, implementation and evaluation of tobacco control programmes that are socially and culturally appropriate to their needs and perspectives” ([WHO, 2003](#), FCTC Article 4.2c).

In British-colonised countries with advanced tobacco control programmes, there has been a sustained and repeated call from indigenous peoples for funding to support their own

culturally based solutions (Public Health Commission, 1994; Minichiello *et al.*, 2016; Chamberlain, *et al.*, 2017). In other countries, there is neither research on indigenous or marginalised people who smoke nor any effort to ensure interventions help them to quit.

The switch from smoking to using Swedish snus among the Sámi is a potential success story for indigenous communities experiencing disproportionately high smoking-related morbidity and mortality. That the Sámi achieved this transition in the presence of a prohibitionist Scandinavian tobacco control attitude towards smoking and snus makes it even more potentially instructive.

Other indigenous solutions that use a harm reduction approach have begun to emerge. One of the first workplaces in Australia to encourage staff to use e-cigarettes to quit tobacco smoking was an Aboriginal Drug and Alcohol service (Wilson, 2018). Similar to Sweden, Finland and Denmark, Australian tobacco control is deeply prohibitionist and refuses to entertain a harm reduction approach, even for high prevalence groups.

One research question arising from these stories has to be how much faster smoking could have been reduced if incumbent tobacco control leaders were not stopping indigenous people from accessing risk-reduced alternatives to smoking? An opposite case for comparison is New Zealand, which has embraced a harm reduction approach. There, many of the first vape product businesses had Māori owners and many of the first advocates for vaping were Māori. Māori experts in cessation also were among the first to start delivering resources and interventions to encourage smokers to switch to vaping. One highly effective programme called Vape2Save has been run on a small scale without formal funding for several years. As yet, it has not been formally evaluated (Ruwhiu-Collins, 2019).

Addressing the neglect of indigenous people

In 2007, the United Nations (Chino *et al.*, 2019) called on all nation states to improve their statistics relating to indigenous peoples. National responses have been mixed and overall statistics remain inadequate. This has negative repercussions for health inequalities, especially in tackling Indigenous smoking. Missing or incorrect indigenous statistics, particularly in health, impedes monitoring of indigenous health indicators. Data collection is vital for the empowerment of the indigenous communities and for identifying their needs. Denying indigenous peoples equitable opportunities to design, test and implement culturally appropriate and effective solutions, and denying them access to greatly risk-reduced alternatives to smoking tobacco, could be seen as a breach of their human rights under the United Nations Declaration on the Rights of Indigenous People.

Understanding slower reduction in smoking prevalence among marginalised groups

Higher smoking rates among people with mental health conditions, members of rainbow communities and indigenous peoples have typically been explained using a medical model that blames factors inherent to the characteristics of the groups – their genes, their culture, the psychiatric disorder, low self-esteem, shame and so on. But, common economic and social determinants of smoking exist across all groups.

First, there is a lack of research and information on smoking prevalence and interventions for all three groups. Smoking prevalence is higher in some indigenous communities largely because women also smoked, and this existed prior to the beginning of the global tobacco control movement. Similarly, it is quite likely that smoking prevalence was always higher for people with mental health conditions and for non-heterosexual non-binary peoples in countries where smoking tobacco was introduced.

Second, another common theme across the literature was that smoking was perceived to be deeply embedded in the culture of mental health care, in rainbow socialising spaces and in Indigenous traditions and practices.

Third, over-representation among lower income groups was also common, likely due to marginalisation and discrimination. Whether, via racism, heterosexism or society's age-old fear of people exhibiting a psychiatric disorder – all three groups are subjected to significant stigmatisation and social exclusion.

Emerging evidence suggests that smoking cessation among the most vulnerable groups is being undermined by unintended consequences of regressive tobacco control policies (Greaves *et al.*, 2006; Moore *et al.*, 2009). The cumulative effect of unaffordable tobacco prices due to exorbitant taxes, fines for smoking, shaming focussed campaigns, discriminatory hiring policies preventing people who smoke from getting jobs and residential tenancy restrictions preventing people who smoke from securing housing, are creating a level of stress and societal exclusion that perpetuates a downward spiral that drives smoking (Greene, 2019). This is partly caused by the WHO-directed focus on reducing the average smoking prevalence globally by 30% between 2010 and 2025 (WHO, 2013).

The off-target effect of WHO's tobacco use reduction target

The WHO target is unintentionally, but effectively, misdirecting the sector from focusing on how to reduce the incidence of smoking-related diseases, which is the real goal. The dictum to focus on reducing global tobacco *use* encourages a utilitarian (Bellefleur and Keeling, 2016) focus on achieving behaviour change among as many people as possible for the least cost, regardless of unexpected negative consequences for the few. The least costly interventions are laws, regulations, taxes and mass media campaigns – blunt instruments applied state-wide or nationally. In this strategy, effectiveness is measured at a population level, using averages that erase outliers, such as disproportionately high smoking prevalence among subgroups. The policies are assessed for their potential to benefit the many, that is the most populous group, and this is usually the politically dominant group. As explained above, policies and laws designed to benefit the politically dominant group, inevitably leave aside the effects on minorities.

The WHO (2019) report claims to provide “evidence” that implementing the FCTC “work[s] to reduce the prevalence of tobacco use”. It concludes that countries just need to accelerate what they “are already doing” and the targets will be achieved and millions of people will be saved from tobacco-related disease and death (p. 39). Despite the WHO's acknowledgement that the FCTC is not working for many marginalised groups, they recommend doing more of the same. The report acknowledges that progress towards the target reduction of 30% is slow, with tobacco use reductions among men proving particularly difficult to achieve (p. 38). The report then urges countries to prioritise reduction of tobacco use *among males*, and it recommends that this will be achieved by yet again doing more of the same. There is no recognition that doing more of the same will produce the same insufficient progress and outcomes. Persisting with interventions proven to be ineffective at reducing smoking among Indigenous peoples, people with mental health conditions and gender and sexuality diverse minority groups will deliver no public health gain for these groups. Prioritising males further compounds the marginalisation of indigenous women, women with mental health conditions and non-male identified members of the rainbow community. Minimising anti-smoking initiatives directed at women overlooks the unique harms of smoking tobacco while pregnant and the additive role of smoking among mothers on child initiation (Scragg and Glover, 2007). Some indigenous populations will be particularly harmed by this approach, especially those communities with higher rates of smoking among their women compared to the men. The WHO utilitarian focus

incentivises countries to focus on what works for the majority, not what might work for minority groups.

Conclusions

Reductions in tobacco smoking prevalence are not occurring at an equitable rate across populations. Subgroups with disproportionately high smoking rates are both formed by and impacted by differential impacts of economic and social determinants of health and by the varied efficacy of tobacco control interventions. In countries with advanced tobacco smoking epidemics, only a minority of people still smoke, but they tend to be concentrated among the lower socio-economic and marginalised members of society.

Innovative research that radically departs from the dominant, and in some cases Eurocentric, models and approaches is needed to inform the design and trial of smoking cessation and harm reduction interventions specifically for high prevalence groups. Preferably, this work will be led by experts from within these groups. If senior health professionals and academics with expertise in smoking cessation do not exist in the marginalised group, funders and tobacco control agencies need to support building that capacity.

Building capacity does not mean telling the marginalised group what to think and teaching them how to do cessation the way the dominant group is doing it. For example, indigenous populations need the opportunity to develop their own analysis of tobacco smoking among their people. They have the right, as set out in the United Nations Declaration on the Rights of Indigenous Peoples, to set their own priorities for change, and, if they so choose, their own targets. Indigenous populations should be resourced, as the dominant group has been for decades, to research, design and trial their own culturally based interventions.

Resourcing rainbow community engagement and involvement in the design and testing of interventions for their diverse members, and involvement of people with mental health conditions in the design of interventions for people with the same conditions, is key to reducing smoking prevalence among them also. Different mental health conditions may need different approaches. People living with mental health conditions in the community may need different interventions from people living in mental health-care facilities and homes. Intersectionality may require a fluidity in how interventions are designed and/or in how they are delivered to ensure efficacy for people stigmatised for multiple characteristics.

In addition to improving collection of information on smoking behaviour and building community capacity and capability to design and lead smoking reduction programmes, reducing smoking among marginalised groups will also require a greater focus on the economic and social determinants of smoking. Regressive tobacco control policies that compound financial insecurity, such as increasing the price beyond affordable levels or fining people for smoking, and policies that criminalise use or possession, risk worsening the very conditions contributing to higher smoking rates among marginalised groups (Greene, 2019). Stigmatising people who smoke and encouraging society to use shaming, discrimination and social exclusion to force cessation risks creating a new and destructive marginality (Brewis and Wutich, 2019).

Continuing the WHO preferred tobacco control approach without efforts to minimise the negative unintended effects of that approach, will ensure that a significant number of people in the world will continue to be left behind. Access to risk-reduced alternatives to smoking may be particularly appealing to groups for whom the incumbent FCTC-dictated approach is not working. Allowing the complimentary utilisation of a harm reduction approach for people who use tobacco is the obvious next step if the WHO truly wants health for *all* people, regardless of ethnicity, gender or sexuality or psychiatric illness or whatever other characteristics are being used to marginalise people.

Ethics

No participants or participant data were collected thus ethics approval was not required.

Acknowledgements

MG and KS contributed to this paper as researchers of the Centre of Research Excellence: Indigenous Sovereignty & Smoking which is supported by a grant from the Foundation for a Smoke-Free World, Inc (Foundation). PP contributed to this paper as Director of Clinical Practice at the Centre for Health Research and Education (CHRE), an independent healthcare company. CHRE's work in implementing smoke-free sites in mental health hospitals in the UK is funded by a grant from the Foundation for a Smoke-Free World. The contents, selection and presentation of facts, as well as any opinions expressed herein are the sole responsibility of the authors and under no circumstances shall be regarded as reflecting the positions of the Foundation.

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