Approximately 10.5% of adults in Pakistan (about 13 million) smoke cigarettes, causing 134,000 deaths annually. To reduce the burden of disease, the Pakistan government implemented a requirement in 2010 for 40% pictorial health warning labels (HWLs) that depicted mouth cancer. A 2017 ruling to increase HWL size was implemented in August 2018 (50% throat cancer image) and August 2019 (60% gangrenous foot image). Pictorial HWLs increase smokers’ quit attempts, deter initiation of use among non-smokers, and prevent relapse in former smokers.

In 2013, only 58% of unique packs with the current, in-rotation HWL were compliant with size, location, text contrast and text size requirements in Pakistan. In 2019, compliance with size, location and text language requirements was 82% (largely due to size compliance improvements) for unique packs displaying the most recent gangrenous foot HWL; however, poor HWL quality was observed. Here, we examine Pakistani HWLs on packs collected from retailers to identify differences from the government mandated HWL image. Thirty-four packs (47%) displayed the current gangrenous foot HWL, 18 (25%) displayed the former 50% throat cancer HWL and 20 (28%) displayed the former 40% mouth cancer HWL. Over half of the packs were manufactured by transnational companies (eg, Philip Morris International); the rest were from domestic manufacturers.

The Tobacco Pack Surveillance System (TPackSS) monitors HWL compliance in low-income and middle-income countries. Between December 2019 and January 2020, the TPackSS protocol was employed in Pakistan; 72 unique cigarette packs with Pakistani HWLs were collected from four major cities (Islamabad, Karachi, Lahore, Quetta). Although the law clearly states that the HWL be ‘printed in the exact color, intensity and clarity’ as the HWL image, poor replication was observed.
Industry watch

provided by the government, 85% (n=61) of the 72 unique sample packs differed from the official images (figure 1A–C). Manipulations were observed in HWLs of all types and by both international and domestic manufacturers.

HWL manipulations observed included tinting, darkening, fading, changing the background colour from blue to grey, cropping the HWL, blurring, brightening and increasing the colour saturation or reducing the size of the throat cancer. Of these, tinting (n=49, 68%), darkening (n=32, 44%) and fading (n=28, 39%) were the most common manipulations. Packs were also observed with multiple types of manipulations (eg, red tint and a grey background). Of note, HWLs tinted to the colour of the pack (figure 1D) and HWLs with no apparent cancer (figure 1E) appeared in our sample, indicating intentional manipulation of the HWL by the tobacco industry.

Despite efforts in Pakistan to address high smoking rates through implementation of pictorial HWLs, it is clear that the tobacco industry is manipulating HWLs. This cannot be considered a printing issue as other elements of the packs (eg, logos, backgrounds) did not display the same quality issues. HWL manipulation was previously documented for smokeless tobacco products in India. Packs were collected only from cities; further research could explore if these manipulations are also present in other areas of Pakistan. Improved monitoring, enforcement and alignment with FCTC penalty provisions are needed to maintain the integrity of mandated HWLs and ensure former HWLs are removed from shelves to deter youth initiation, increase quit intentions and prevent relapse in former smokers.

Acknowledgements This work was completed with the support of data collectors (Gallup) based in Pakistan.

Contributors EC was the primary writer of the article. All authors contributed to revising the article critically for important intellectual content. All authors approved the final version of the paper.

Funding This work was supported with funding from Bloomberg Philanthropies’ Bloomberg Initiative to Reduce Tobacco Use (www.bloomberg.org).

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
Elizabeth Crespi http://orcid.org/0000-0002-3869-3617
Kevin Welding http://orcid.org/0000-0002-1833-6691
Joanna E Cohen http://orcid.org/0000-0002-5462-5976

REFERENCES
1. Saqib MAN, Rafique I, Qureshi H, et al. Burden of tobacco in Pakistan: findings from Global Adult Tobacco Survey 2014. Nicotine Tob Res 2018;20:1138–43.
2. Institute for Health Metrics and Evaluation. GBD compare viz hub. Available: http://vizhub.healthdata.org/gbd-compare [Accessed 16 Feb 2021].
3. Tobacco Labelling Resource Centre. Pakistan. Available: https://tobaccolabs.ca/countries/pakistan/ [Accessed 10 Sep 2020].
4. Tobacco Control Laws. Health warnings/Messages features. Available: https://www.tobaccocontrollaws.org/legislation/country/pakistan/pl-health-warnings [Accessed 10 Sep 2020].
5. Institute for Global Tobacco Control. State of evidence review: health warning labels on tobacco products. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health, 2013. Available: https://www.globaltobaccocontrol.org/sites/default/files/HealthWarnings_state_of_evidence_final_11_18_2013_web_0.pdf [Accessed 10 Sep 2020].
6. Cohen JE, Brown J, Washington C, et al. Do cigarette health warning labels comply with requirements: a 14-country study. Prev Med 2016;93:128–34.
7. Institute for Global Tobacco Control. Tobacco Pack Surveillance System (TPackSS). Cigarette health warning label compliance Pakistan - 2019. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health, 2019. Available: https://www.globaltobaccocontrol.org/tpackss/sites/default/files/Pakistan_HWL_6_2020_1_0.pdf [Accessed 8 Oct 2020].
8. Iacobelli M, Saraf S, Welding K, et al. Manipulated: graphic health warnings on smokeless tobacco in rural India. Tob Control 2020;29:241–2.