Country Participation in the WHO Framework Convention on Tobacco Control Health Warnings Database

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ABSTRACT

BACKGROUND: The World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC) Health Warnings Database is an online, publicly available resource created for countries to upload and share pictorial health warnings for tobacco packaging. The purpose of this study was to evaluate the extent to which the database is used by countries for the sharing of pictorial warnings.

METHODS: The study's sample included parties to the FCTC who required graphic health warning labels on cigarette packaging from. Those countries were categorized as having a low, middle, and high Socio-Demographic Index (SDI). The Health Warnings Database was then analyzed for those countries' unique pictorial images, as well as the number of pictorials that were shared between countries.

RESULTS: Of the 110 countries that required pictorial warnings on cigarette packaging, only 53 (48%) voluntarily contributed pictorials to the database, with most of those (53%) being high SDI-level countries. There were 342 unique pictorials on the database, with 62 images posted by seven countries that were used by 13 other countries.

CONCLUSION: While sharing was evident from the database, there remains a need for more countries to upload the pictorials to the database. There is also a need to expand the database to include alternative tobacco products, such as waterpipe tobacco and e-cigarettes.

KEYWORDS: graphic, pictorial, health, warning, cigarettes

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Introduction

In 2003, the World Health Organization (WHO) developed the Framework Convention on Tobacco Control (FCTC) in response to the global tobacco epidemic. The FCTC is an international treaty that requires parties to commit to implementing several evidence-based policies and interventions to reduce the world's demand and supply of tobacco.[1] Currently, 182 countries have signed as parties to the treaty, representing over 90% of the world's population.[2]

In 2008, the WHO published the "MPOWER policy package" in order to simplify the FCTC for practical use among tobacco control stakeholders in each country. The MPOWER acronym summarizes the FCTC into six overarching, evidence-based strategies: M (monitor tobacco use), P (protect people from tobacco smoke), O (offer help to quit tobacco use), W (warn about the dangers of tobacco), E (enforce bans on tobacco advertising and promotion), and R (raise taxes on tobacco products).[3] The recommended policies in MPOWER are scored by the WHO in terms of each country's level of policy implementation.[4] Several longitudinal studies have found that countries with higher composite scores of MPOWER implementation tend to have lower smoking rates.[5-11]

One policy recommendation of the FCTC and MPOWER is the use of pictorials on tobacco packaging that warn about the dangers of tobacco use. Specifically, in Article 11 of the FCTC,[12] and the corresponding "W" of MPOWER,[3] the WHO recommends that countries should place graphic pictorials on tobacco packages that depict certain diseases and other negative outcomes caused by tobacco use. Pictorial warnings are cost-effective, have a positive impact on those who smoke, and also reach non-smokers and those who cannot read, including children.[1,4] A large body of research has shown that graphic, pictorial warnings on cigarette packs are more effective than simple text warnings at improving knowledge, attitudes, and behaviors in regards to smoking.[13-16]

Given the effectiveness of pictorial health warnings, parties to the WHO FCTC decided in 2008 to create a database of

pictorial images and accompanying text warnings. The resulting "WHO FCTC Health Warnings Database" is available online and parties can voluntarily contribute to it as well as use warnings contributed by others.[17] The database's pictorial health warnings are categorized by participating countries and by pictorial warning topics (eg, health effects of smoking, esthetic effects of smoking, death due to smoking, second-hand smoke). Each country's pictorial warnings include information about the years that the warnings were used and which country created and owns the pictorials.

Although previous studies have used the Health Warnings Database to collect and modify pictorial warnings for research purposes, there is a need to study the database in regards to country participation in the sharing of warnings. Given that the database operates as a publicly available website with a collection of images, it has been used as a source for researchers[18] to study smokers' and non-smokers' perceptions of various pictorial warnings.[19-26] Using the database as a resource for experimenting on effective warning content is important; however, the primary purpose of the database is to share pictorial health warnings between nations. To the authors' knowledge, there has yet to be a formal evaluation of whether the database is being used as intended. As such, this study sought to assess the extent to which countries participate in the Health Warnings Database, and to determine which countries used shared images.

Materials and Methods

The sample for this study was countries who were (1) parties to the FCTC, (2) required graphic health warning labels on cigarette packaging, and (3) specified the number of health warnings for cigarette packaging that were approved by law, according to data contained in the WHO's Global Health Observatory (GHO) data repository.[27,28] Although the GHO captured these data every other year from 2007 to 2018, this study only included data starting from the establishment of the Health Warnings Database in 2008.

Countries were further categorized by the Global Burden of Disease Study's (GBD) Socio-Demographic Index (SDI). The SDI was developed by GBD researchers as a risk factor in estimating 195 countries' burden from diseases. The SDI is an indicator of each country's development status, and is a composite score of three variables: the total fertility rate for those under 25 years old, the mean education for those 15 years old and older, and the per capita lag distributed income.[29] Based on the composite score, countries are categorized as having a high, high-middle, middle, low-middle, and low SDI. These SDI categories from the 2017 GBD study were used in the analysis, and countries with SDI categories of high-middle, middle, and low-middle were combined as a single "middle" category. Then, using Excel software, we analyzed the number of countries, by SDI level, that required pictorial warnings on cigarette packages, including the median and range of the countries' number of pictorial warnings

The FCTC Health Warnings Database was then analyzed in May of 2021 to determine countries' participation in sharing pictorial health warnings. To do so, we recorded all countries that were in the database and compared those countries to those listed by the GHO data repository as having a specified number of pictorial warnings. Since the Health Warnings Database combines all countries within the European Union (EU), the analysis separated each country in the EU and also counted the same pictorials for each of those countries. Next, we recorded each country's unique pictorial images posted on the database. Any duplicates of the same pictorial that a country posted to the database were only recorded once in the study. For example, if a country posted two warnings to the database that were of the front and back of a cigarette pack, but used the same pictorial for each warning, then that pictorial image was only recorded once. Or, if the same pictorial was used for different warning posts (ie, the same image of cancerous lungs was used with a textual warning about lung cancer and a different warning about death), then that pictorial was only recorded once. We then categorized the countries by SDI level and summarized the median and range of unique pictorial images that the countries posted on the FCTC Health Warnings Database.

Finally, we determined which unique pictorials were shared between countries. Each pictorial that was being shared on the database was categorized by both the country that uploaded the pictorial, and the other countries that were using that same pictorial. The total number of pictorials that were being shared between countries was then quantified.

Ethical review and approval were waived for this study by the Institutional Review Board at Appalachian State University (#22-0015), due to the study not constituting as human subject research.

Results

From 2008 to 2018, the number of countries that required pictorial warnings on cigarette packaging and required a specified number of health warnings increased from 27 to 110. During the same timeframe among those countries, there was an increase in the median (9–12) and range (1–16 to 12–24) of required pictorial warnings. Of the 110 countries that required pictorial warnings in 2018, 34 (31%), 68 (62%), and 8 (7%) were of high, middle, and low SDI-level countries, respectively (Table 1). Only 53 (48%) of those countries contributed pictorials to the FCTC Health Warnings Database, and of the countries listed in the database, 28 (53%) were high SDI-level countries (Table 2). In addition, high SDI-level countries had a larger median and range of pictorials in the database when compared to middle and low SDI-level countries (Table 2).

A total of 342 pictorials from the database were included in the analysis. Of those, 62 were used between countries, in which seven countries posted the pictorials and 13 other countries adopted those images for their own warnings (Table 3). The pictorials that were shared most frequently included an image

Table 1. Countries by SDI level requiring pictorial warnings on cigarette packages, 2008–2018.

SDI LEVEL	2008	2010	2012	2014	2016	2018
High						
No. of countries	9	13	16	16	29	34
Mdn, range of warnings	16.0, 6–16	16.0, 6–16	16.0, 6–16	16.0, 6–16	15.0, 6–16	15.0, 4–16
Middle						
No. of countries	18	25	38	52	61	68
Mdn, range of warnings	8.0, 1–16	8.0,1–16	6.5, 1–16	8.0, 1–24	10.0, 1–24	10.0, 1–24
Low						
No. of countries	0	1	3	4	9	8
Mdn, range of warnings	.0, 0	1.0, 1–1	4.0, 4–8	6.5, 4–10	4.0, 2–10	4.5, 2–10
Total						
No. of countries	27	39	57	72	99	110
Mdn, range of warnings	9.0, 1–16	10.0, 1–16	10.0, 1–16	10.0, 1–24	12.0, 1–24	12.0, 1–24

Table 2. Countries by SDI level and number of pictorial images on the FCTC Health Warnings Database, 2021.

SDI LEVEL	NO. OF COUNTRIES	MDN, RANGE OF PICTORIALS
High	28	31.0, 11–31
Middle	24	10.5, 1–31
Low	1	9.0, 9–9
Total	53	29.0, 1–31

from Thailand of an autopsy of a man who had lung cancer (used by Brunei Darussalam, Cambodia, Indonesia, Malaysia, and the Russian Federation) and an image from Australia of a person's autopsied brain that suffered from a stroke (used by Cambodia, Djibouti, New Zealand, and Singapore).

Discussion

This paper reports the first evaluation of the WHO FCTC Health Warnings Database being utilized by countries. The findings indicate that the database has been successful in terms of pictorial sharing taking place. In addition, the findings reflected previous research regarding differences in country SDI-level and MPOWER tobacco control efforts.[5-7] Although sharing pictorials on the Health Warnings Database is voluntary and not part of the FCTC treaty, more countries with high SDI levels contributed to the database compared to countries with middle or low SDI levels.

While sharing was evident from the database, there remains a need for more countries to upload the pictorials that they are using or have used in the past. Sharing pictorials between countries is fairly simple, as the Convention Secretariat helps to facilitate that process. It is important that tobacco control leaders from each country advocate for collaboration with the Convention Secretariat in uploading pictorials. There is potential for several countries to contribute to the database, as only 48% of countries that require pictorial warnings on cigarette packaging added pictorials to the database. Improved sharing could help other countries, particularly those at the middle and low SDI levels, to efficiently meet FCTC obligations to incorporate pictorial warnings on tobacco packaging without having to "reinvent the wheel."

There is also a need to expand the Health Warnings Database beyond cigarette packaging warnings. With the considerable global rise in use of alternative tobacco products, important work is being done to develop product-specific pictorial health warning labels for water pipe tobacco,[30,31] electronic cigarettes,[32,33] and smokeless tobacco.[34] The Health Warnings Database would be a valuable resource for sharing pictorials that are unique towards different products that continue to grow in demand.

A few limitations should be considered when interpreting the study's findings. First, it is possible that the level of pictorial sharing shown in this study's findings may be underreported and not representative, as countries may have shared pictorials with each other outside of the WHO's Health Warnings Database. For example, the Tobacco Labelling Resource Centre, supported by the International Union Against Tuberculosis and Lung Disease, collects and displays pictorial health warnings from 66 countries. The Centre's website invites others to contact countries in regard to copyright laws and permission to use the pictorials.[35] Second, after this study's analysis was completed, the researchers discovered that the Health Warnings Database was no longer available on the WHO's website. It is possible that the Health Warnings Database was being updated at the time, as after clicking the usual hyperlink to the database, a message stated that the WHO was making efforts to enhance its website by migrating over 180,000 pages of content. As such,

Table 3. Countries that have shared and used pictorial images with each other on the FCTC Health Warnings Database.

CONTRIBUTING COUNTRY	NO. OF PICTORIALS USED BY OTHER COUNTRIES	COUNTRIES THAT USED THOSE PICTORIALS
EU[a]	24	Australia, Djibouti, New Zealand, Turkey, Ukraine
Thailand	14	Bangladesh, Brunei Darussalam, Cambodia, Russian Federation, Indonesia, Malaysia
Canada	9	Australia, Djibouti, New Zealand, Singapore
Australia	7	Cambodia, Djibouti, New Zealand, Singapore
Mauritius	4	Seychelles
Singapore	3	Brunei Darussalam, Malaysia
Venezuela	1	Indonesia

[a]Countries within the EU include Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

it is possible that the pictorials in the database were also being updated at the time of the study, which could mean the findings are underreported in regards to the level of country participation in the database.

Conclusions

This study indicates that the purpose behind the WHO's FCTC Health Warnings Database is being achieved, as several nations have shared pictorial health warnings with each other. The database has the potential to serve as an excellent resource for using existing pictorials to creating new health warnings for cigarette packaging. At the same time, there is still potential for additional countries, especially those with lower SDI levels, to participate in the database, as well as opportunities for the database to include pictorials for alternative tobacco products (eg, water pipe tobacco, electronic cigarettes, smokeless tobacco).

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Author Contributions

Conceptualization, data curation, formal analysis: CMS. Methodology: CMS, KDW, ZK. Writing—original draft: CMS, KDW, ZK. Writing—review and editing: CMS, KDW, ZK. All authors have read and agreed to the published version of the manuscript.

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