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ABSTRACT

This report examines the experiences of Small Island Developing States in the Caribbean—Barbados, Dominica, Jamaica, and in the Pacific—Fiji, Nauru, and Tonga with specific governmental regulatory measures to reduce the risk of obesity and associated diet-related chronic noncommunicable diseases (NCDs), as well as the obstacles and opportunities encountered. Guided by the diet-related indicators of the World Health Organization (WHO) Noncommunicable Diseases Progress Monitor 2017, the authors reviewed legislation, country reports, articles, and the databases of WHO and the World Trade Organization to identify relevant regulatory measures and to establish the extent of implementation in the selected countries.

Obesity prevalence ranged from 25.9% in Dominica to 41.1% in Tonga. The principal diet-related measures implemented by the selected countries were fiscal measures, such as sugar-sweetened beverage taxes and import duties to encourage greater consumption of healthy foods. Governmental action was weakest in the area of restrictions on marketing of unhealthy foods. If they are to reduce their current high rates of obesity and associated NCDs, Caribbean and Pacific states need to intensify implementation of diet-related regulatory measures, particularly in the area of marketing of unhealthy foods and beverages to children. Key implementation challenges include financial and staffing constraints and the need for increased political will to counter industry opposition and to allocate adequate financial resources to keep advancing this agenda.

Keywords

Noncommunicable diseases; health legislation; obesity; Pacific Islands; Caribbean region.
Obesity rates above 80%, diabetes rates above 20%, and rates of NCD-related mortality over 70% (7). The majority of PICTs also have higher proportions of premature NCD mortality than the global average. As expected, the economic burden associated with NCDs in PICTs is projected to continue to increase (8); for instance, the economic burden of NCDs as a proportion of 2010 GDP is projected to rise from 6.8% in 2030 to 10.9% in 2040 in Fiji and from 8.3% to 12.3% in Tonga (8).

A particularly disturbing trend in SIDS is the rapid rise in childhood overweight and obesity rates. In 2016, the highest rates of obesity (over 30%) in the world were in Nauru for girls and in the Cook Islands for boys (9). Some CARICOM Member States report rates of adolescent obesity as high as 14% (2).

The obesity epidemic in these island nations and territories is driven primarily by the nutrition transition—from consumption of mostly local staples, fruits, and vegetables, to large amounts of highly processed foods, sugar-sweetened beverages, other added and hidden sugars, fats/oils, sodium, and animal-source foods (10). This nutrition transition results from a complex interplay among recent and rapid globalization, changing social and cultural norms, colonial histories, and poverty, and is reflected in significant levels of imported, highly processed foods in these countries. According to 2011 data (10) from the Food Agricultural Organization of the United Nations (FAO), the following food categories contribute significantly to total food imports by CARICOM: food items high in calories, sugars, and sodium (18%), and food items high in fats/oils (12%). FAO has also noted the adverse effect of the growing share of imported foods high in salt and fat content on diet and national food security in the PICTs (11).

Moreover, the World Bank has identified dietary risk as the highest behavioral risk factor for diabetes-related deaths in the Pacific (8).

The significant contribution of dietary changes to food environments and obesity rates in Caribbean and Pacific, highlights the need for policies and laws that support the availability of affordable, healthy food. The World Health Organization (WHO) has endorsed several best-practice regulatory interventions aimed at promoting healthy diets (12). Three of the most relevant for obesity prevention and control are the following: (i) taxation of sugar sweetened beverages (SSB)—most recently the Commission on Ending Childhood Obesity’s recommendation was for a minimum 20% SSB tax (13); (ii) the WHO 2010 Recommendations on Marketing of Unhealthy Foods and Beverages to Children (14); and (iii) the WHO/UNICEF International Code of Marketing on Breast-milk Substitutes (15).

The objective of this report was to understand the extent to which these three diet-related regulatory interventions have been implemented by the selected countries and to highlight some of the relevant challenges and opportunities faced by SIDS in the Pacific and Caribbean. These findings can be used to inform further research on the feasibility of implementing the recommended obesity interventions in the SIDS context, as well as to guide future action.

MATERIALS AND METHODS

Countries were chosen to broadly represent the diversity of economics, demographics, and diet-related NCD rates in the Caribbean and Pacific SIDS, and as having data available for analysis and experience with implementing obesity interventions. The six countries were: Barbados, Dominica, and Jamaica in the Caribbean; and Fiji, Nauru, and Tonga in the Pacific. Table 1 presents a comparison of the selected countries.

A review was conducted of the selected diet-related regulatory interventions, their adoption, implementation, barriers, and opportunities in each of the countries, and more broadly. For Barbados, Dominica, and Jamaica, we searched for legislation in each of the selected countries using the consolidated indexes of Acts and Subsidiary Legislation and the 2015–2018 Acts and Statutory Instruments in the University of the West Indies Cave Hill Law Library. For Fiji, Nauru, and Tonga, we searched PICTs laws through the respective government online portals and the Pacific Revenue and Customs authority’s websites (https://www.revenue.gov.to; https://www.tonga.gov.to; https://www.fij.gov.fj; www.frsc.org.fj; www.naurugov.nr). The World Trade Organization (WTO) services database was also searched to identify each country’s services-specific commitments (www.wto.org).

Second, the broader peer-reviewed and grey literature was reviewed to identify any additional regulations, as well as to understand country implementation experiences. Peer-reviewed literature was identified utilizing the Lexis-Nexis® (Irvine, California, United States), PubMed Central (U.S. National Library of Medicine, Bethesda, Maryland, United States), Science Direct (Elsevier, New York, New York, United States), and the Social Science Research eLibrary (Elsevier, New York, New York, United States), as well as two specific journals: WHO Bulletin and the Revista Panamericana de Salud Pública. The titles and abstracts of these search

### TABLE 1. Country noncommunicable diseases (NCDs) profiles in a study of regulatory measures to fight obesity in Small Island Developing States of the Caribbean and Pacific, 2015–2017

<table>
<thead>
<tr>
<th>Country</th>
<th>Obesity prevalence</th>
<th>% deaths from major NCDs</th>
<th>% risk of premature deaths from major NCDs</th>
<th>Breast-milk substitutes code implemented</th>
<th>WHO marketing recommendations implemented</th>
<th>Taxes on sugar sweetened beverages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbados</td>
<td>33.2%</td>
<td>83%</td>
<td>16%</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Dominica</td>
<td>25.9%</td>
<td>—</td>
<td>—</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Jamaica</td>
<td>26.8%</td>
<td>79%</td>
<td>15%</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Fiji</td>
<td>35.9%</td>
<td>93%</td>
<td>10%</td>
<td>Yes</td>
<td>No, but draft legislation on advertising</td>
<td>Yes</td>
</tr>
<tr>
<td>Nauru</td>
<td>45.1%</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Tonga</td>
<td>41.1%</td>
<td>81%</td>
<td>24%</td>
<td>—</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

results were reviewed; irrelevant records were excluded. Then, the full texts of the remaining articles were reviewed. Grey literature was identified by searching targeted websites of WHO, the World Bank, the World Economic Forum, the Caribbean Public Health Agency, and the Pacific Forum Secretariat. We also searched the WHO Noncommunicable Diseases Progress Monitor 2017 (16) and the NOURISHING database curated by the World Cancer Research Fund International to establish the level of implementation of selected diet-related regulatory interventions. We also reviewed minutes of the WTO Technical Barriers to Trade Committee from March 2013 – June 2017 to identify its members’ views on the WTO-consistency of diet-related technical regulations (17).

All searches were conducted in January – March 2018 and were limited to publications in English. Search terms included the two geographic areas and six individual country names together with combinations of ‘SSB taxes,’ ‘SSB tax revenue,’ ‘tax,’ ‘economic burden of NCDs,’ ‘nutrition,’ ‘marketing,’ ‘obesity,’ ‘school nutrition policy,’ ‘Pacific Forum and NCDs,’ ‘advertising,’ ‘technical barriers to trade and food regulation,’ and ‘WTO consistency of food regulation.’

Our review was limited by its reliance on the University of the West Indies Faculty of Law Library’s holdings, as well as by the availability of legislation for the PICTs online either through official Ministry websites or as referenced in grey literature. Access to relevant, quality information was another limitation as there is a paucity of published research on the economic dimensions of NCDs in CARICOM and the Pacific or on implementation of the selected diet-related regulatory measures in these countries.

RESULTS

Despite sharing many contextual factors, the six countries varied widely in the extent to which they had implemented policies addressing obesity and its related NCDs.

Barbados

On 15 June 2015, the Government of Barbados announced the introduction of a 10% tax on all SSBs (18). This SSB tax was implemented on 1 September 2015 and covers juice drinks, energy drinks, and sodas, but does not apply to beverages with intrinsic sugars, such as coconut water and 100% natural juice (19). At a recent PAHO workshop, the Barbados Revenue Authority reported that the SSB tax generated Bds$ 13 million (US$ 6.5 million) during 2015 – 2016 and just over Bds$ 12 million (US$ 6 million) during 2016 – 2017 US$ 21/capita/year (20). This revenue is deposited directly into the Consolidated Fund, with no earmarking of funds for health-related programs.

Barbados has also used fiscal policy to make healthy food options more affordable. Thus, some goods, such as imported strawberries were exempted from VAT and the National Social Responsibility Levy based in part on their nutrient profile (21).

Barbados has not implemented the WHO marketing recommendations (14).

Barbados does not have any legal provisions implementing the Breast-milk Substitutes Code domestically (15, 22).

Dominica

Dominica introduced a 10% excise tax on beverages and food with high sugar content on 1 September 2015. The tax covers items such as chewing gum, chocolate bars, soft drinks, and malt beverages (23). Revenue from the tax is deposited directly into the Consolidated Fund.

Dominica has not implemented the WHO marketing recommendations (14).

Dominica does not have any legal provisions implementing the Breast-milk Substitutes Code domestically (15, 22).

Jamaica

Jamaica does not currently impose SSB taxes; however, on 17 November 2017 the Heart Foundation of Jamaica, supported by Bloomberg Philanthropies, launched an obesity prevention public education campaign dubbed, “Are you drinking yourself sick?” It is hoped that this campaign will pave the way for introduction of SSB taxes (24).

Jamaica has not implemented the WHO marketing recommendations (14).

Jamaica does not have any legal provisions implementing the Breast-milk Substitutes Code (15, 22).

Fiji

Fiji first introduced an import duty of 5% on soft drinks and an excise tax on locally manufactured SSBs of 5c/liter (US$ 0.02/liter) in 2006 (25). In August 2017, Fiji increased the duty on locally produced SSBs to 35c/liter (US$ 0.17/liter) and the duty on imported SSBs to 15% (26). In 2000, Fiji imposed restrictions on unhealthy imports, such as mutton flaps; and in 2012, it increased the duty on imported palm oil and monosodium glutamate to the maximum allowable WTO level (25). Between 2012 and 2013, Fiji also reduced the duty on most imported fruits, vegetables, and legumes, and removed the excise tax on these items (26).

Fiji has not as yet implemented the WHO marketing recommendations because its 2015 legislation on marketing of food and beverages to children has not yet been enacted (27).

Fiji has fully implemented the provisions the Breast-milk Substitutes Code in its laws (15, 22). Specifically, its Marketing Controls (Foods for Infants and Young Children) Regulations 2010 has strict labelling provisions for infant formula, prohibits advertising and promotion of breast-milk substitutes, and limits the recommendation of a breast-milk substitute product until after the age of 6 months (28).

Tonga

In 2013, Tonga imposed a tax of 1 Tonga Pa’anga/liter (approximately US$ 0.50 per liter) on drinks containing sugar or sweeteners, and lowered its import duties on imported fresh, tinned, and frozen fish. In 2016, it imposed an import duty of 15% on unhealthy imports, such as turkey tails (25).

Tonga has not implemented the WHO marketing recommendations (14). There is no available information on Tonga’s implementation of the Breast-milk Substitutes Code (15, 22).

Nauru

In 2007, Nauru introduced a 30% tax on imported sugar, confectionery, carbonated soft drinks, cordials, flavored milks, sugar-sweetened drink-mix beverages, and high-sugar foods. At the same time, it removed the levy on bottled water to make it more affordable (25). During Nauru’s negotiations for an Economic Partnership Agreement with the European Union, it excluded sugary products from its list of goods with lower rates of duty (25).
Nauru has not implemented the WHO marketing recommendations (14).

There is no available information on Nauru’s implementation of the Breast-milk Substitutes Code (15, 22).

Obesity prevention in the PICTs and CARICOM

The literature regarding obesity prevention in the PICTs and CARICOM identified trade concerns as a potential restriction (2, 29). The minutes of the WTO Technical Barriers to Trade Committee also revealed concerns by WTO Member States, such as the United States and the European Communities, about the WTO-consistency of some of the marketing restrictions implemented by countries such as Chile, Ecuador, and Peru (17).

However, while a state’s choice of health measures is not completely unfettered, the WTO does make allowances for bona fide public health measures. The principal concern of policymakers here should be ensuring that the measures they choose are: (i) proportionate, reasonable, and rational; (ii) non-discriminatory (i.e., imported goods/services should not be treated less favorably than domestic ones; (iii) supported by sound scientific evidence, if available; and (iv) developed respecting due process.

In the goods field, WTO members can adjust their tax rates based on a product’s nutrient profile if they act in a non-discriminatory manner, and can also adjust duties on imports based on similar considerations if they do not exceed WTO maximum levels. Even where measures violate WTO rules, they can potentially be justified under Article XX of the WTO General Agreement on Tariffs and Trade 1994 (GATT) as necessary for human health, provided they do not amount to arbitrary or unjustifiable discrimination or a disguised restriction on trade (30). Even in the more specialized area of food labelling, the WTO Agreement on Technical Barriers to Trade builds in flexibility to allow its Member States to pursue legitimate public policy goals. It expressly recognizes human health as one such legitimate public policy goal, provided the measure in question is not more trade-restrictive than necessary considering the risks that non-fulfilment would create (31). It is acknowledged, however, that in low resource settings, such as those in the Caribbean and Pacific SIDS, policymakers may not have the capacity to act, or may not fully appreciate these subtle nuances in WTO rules, and thus, may fail to act or may reverse previous action believing that WTO rules require them to do so.

In the field of trade in services, the WTO General Agreement on Trade in Services (GATS) also permits Member States to address their obesity concerns by not undertaking liberalization commitments in areas such as advertising. This is because GATS commitments are structured on a ‘positive list’ approach, i.e., only those sectors chosen by the government will be subject to market access and national treatment liberalization commitments. GATS also contains a clause modelled on Article XX of the GATT excusing GATS-inconsistent measures that are necessary for human health. All the selected countries except Nauru are WTO members. Among them, Barbados, Dominica, and Fiji retain full freedom of action in this area as they have not made any commitments in the advertising or distribution services sectors (32). However, Jamaica and Tonga have both made full liberalization commitments under GATS, and thereby would have to be more careful in drafting restrictions on advertising in print and electronic media (32). Regardless, both Jamaica and Tonga would still be able to justify any potentially GATS-inconsistent interventions necessary for human health if they do not amount to arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

The literature also highlighted the fact that, although PICTs and CARICOM Member States can lower taxes and duties on healthy imported products, their ability to do so is limited by heavy reliance on these for government revenue (33). It was also noted that these countries already spend a significant proportion of their budgets on health (Table 2), and therefore, have very little, if any, additional budgetary allocation to implement the selected diet-related regulatory interventions.

Our review also revealed concerns about the capacity of SIDS to meet the legislative drafting demands involved in implementing the selected diet-related regulatory interventions as the majority of the Chief Parliamentary Counsellors’ offices have very small staff complements (34). Other relevant legislative considerations concern the process of moving from policy to officially published legislation, which can be long and protracted. From a constitutional perspective, the fact that international commitments fall under the exclusive authority of the executive branch means that they are often not subjected to rigorous debate domestically, which can result in a lack of support for implementation on the ground. The complex, multi-disciplinary nature of the NCDs crisis also calls for integrated, multisectoral, “whole of society” approaches that can be challenging to these countries’ governance mechanisms, domestically and internationally.

Finally, in at least two of the selected countries, there was evidence of industry opposition potentially undermining political support for and implementation of SSB taxes, and that this influence was not necessarily limited to the local industry alone. In Fiji, based on lobbying from industry, the excise tax on domestically produced soft drinks was initially removed in 2007 and replaced with a 3% import duty on the raw material for soft drinks (25). In Barbados, representatives of Big Soda attempted to persuade the government not to introduce its SSB tax by instead offering assistance with promoting physical activity in the fight against NCDs (35).

DISCUSSION

The results of this review show that all three selected PICTs have implemented an SSB tax. Within CARICOM, only two of the selected countries have SSB taxes and they are below the recommended 20% minimum level (13). The final results of the evaluation of Barbados’ SSB tax will hopefully provide a clearer picture of the tax’s overall impact on consumption. An additional area of concern regarding the Barbados SSB tax is that the revenue is not earmarked for NCD prevention and control, or even for health programs more generally. Designation of revenue generated from SSB and similar taxes can potentially play a useful role in offsetting the initial costs associated with implementing the selected diet-related regulatory interventions in the short-term. In terms of the use of taxation more generally, there was much more limited use of taxation measures in CARICOM, than in the Pacific, particularly in terms of lowering taxes on healthier food options. Therefore, there is room for further movement in this area, however, this may be unlikely since these...
countries already noted high reliance on taxes for government revenue.

The review identified marketing regulations as being the weakest link in both the Caribbean and the Pacific areas. Implementation of restrictions on the marketing of food to children is a potentially sensitive and difficult task in the both contexts given the dominance of certain food distributors, the penetration by the transnational “Big Food” players, and the comprehensive nature of the restrictions recommended by WHO. The ultimate objective is to reduce “both the exposure of children to, and power of, marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt” (14). However, WHO recognized the difficulty that some states may face in meeting this goal immediately, and so the recommendations allow for a phased approach when deemed more appropriate. Such an approach could see the PICTs and CARICOM Member States making a start by regulating the school environment and its immediate environs, and gradually expanding to the national scale.

A common theme underpinning this discussion is the need for political will. It is clear from our review that strong political leadership and buy-in at the highest political level is crucial to successful obesity prevention and control. Following CARICOM and the PICTs initial promising start in the early 2000s, their strong global and domestic leadership on NCD prevention and control seems to have waned. Political leadership is most needed in the area of marketing unhealthy food and drink to children. CARICOM Member States and PICTs all have domestic food and beverage industries that will be negatively impacted by increased regulation in the sector. Accordingly, to make meaningful progress, these governments need to be prepared to meet and resist strong opposition from these stakeholders. Political leadership will also be needed to deal with conflicts that arise between the Ministry of Health and other institutions, such as the Ministries of Education, Sports, and Industries, as regulation of the food sector increases.

### CONCLUSION

Caribbean and Pacific SIDS need to take urgent action to advance obesity prevention and control. The experiences of the selected countries suggest that there are constraints that need to be addressed in order to accelerate action, most especially the shortage of financial and personnel resources and the need for greater buy-in at the highest political levels, both nationally and internationally. The hope is that these countries will be able to significantly increase their pace of implementation; if not, they are unlikely to meet the Sustainable Development Goals target of halving the incidence of NCD-related premature deaths by 2030.

#### Conflicts of interest: None declared.

#### Disclaimer. Authors hold sole responsibility for the views expressed in the manuscript, which may not necessarily reflect the opinion or policy of the RPSP/PAJPH and/or PAHO.

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RESUMEN

Este es un informe sobre las experiencias de Barbados, Dominica, Jamaica, Fiji, Nauru y Tonga con medidas gubernamentales regulatorias específicas dirigidas a reducir el riesgo de obesidad y enfermedades no transmisibles relacionadas con la dieta y resaltar los obstáculos y oportunidades relacionados con ellas. Guíados por los indicadores relacionados con la dieta establecidos en el Monitoreo de Avances en materia de las Enfermedades no Transmisibles 2017 de la Organización Mundial de la Salud (OMS) se revisó la legislación, los informes de los países, artículos, y las bases de datos de la OMS y la Organización Mundial de Comercio para identificar las medidas regulatorias pertinentes y establecer el alcance de su implementación en los países seleccionados.

La prevalencia de obesidad osciló entre el 25,9% en Dominica y el 41,1% en Tonga. Las principales medidas relacionadas con la dieta implementadas por los países seleccionados fueron medidas fiscales, como los impuestos a las bebidas azucaradas y los aranceles de importación, para alentar un mayor consumo de alimentos saludables. La acción gubernamental fue más débil en el área de restricciones en el marketing de alimentos poco saludables. Para reducir las actuales altas tasas de obesidad y enfermedades no transmisibles asociadas, los estados del Caribe y del Pacífico deben intensificar la implementación de medidas regulatorias relacionadas con la dieta, en particular en el área del marketing de alimentos y bebidas poco saludables para los niños. Los desafíos clave de la implementación incluyen limitaciones financieras y de personal y la necesidad de una mayor voluntad política para contrarrestar la oposición de la industria y asignar recursos financieros adecuados para seguir avanzando en esta agenda.

Palabras clave

Enfermedades no transmisibles; legislación sanitaria; obesidad; Islas del Pacífico; Región del Caribe.

RESUMO

Medidas regulatórias para combater a obesidade nos pequenos estados insulares em desenvolvimento do Caribe e do Pacífico 2016-2017

Este é um relatório sobre as experiências de Barbados, Dominica, Jamaica, Fiji, Nauru e Tonga com medidas específicas reguladoras do governo destinadas a reduzir o risco de obesidade e doenças não transmissíveis associadas (DNTs) relacionadas à dieta e destacar os obstáculos e oportunidades que estimulam um maior uso dessas medidas. Guíados pelos indicadores relacionados à dieta estabelecido no Monitoramento de Progresso das Doenças Não Transmissíveis 2017 da Organização Mundial da Saúde (OMS), revisamos a legislação, os relatórios dos países, artigos, e as bases do dados da OMS e da Organização Mundial do Comércio para identificar as medidas regulatorias relevantes, visando reduzir o risco de obesidade e as DNTs associadas, e estabelecer o escopo de sua implementação nos países selecionados.

A prevalência de obesidade variou de 25,9% na Dominica a 41,1% em Tonga. As principais medidas relacionadas à dieta implementadas pelos países selecionados foram medidas fiscais, como impostos sobre bebidas açucaradas e tarifas de importação, para incentivar maior consumo de alimentos saudáveis. A ação do governo foi mais fraca na área de restrições à comercialização de alimentos não saudáveis. Para reduzir as atuais altas taxas de obesidade e doenças não transmissíveis associadas, os países do Caribe e do Pacífico devem intensificar a implementação de medidas regulatorias relacionadas à dieta, particularmente na área da comercialização de alimentos e bebidas não saudáveis para crianças. Os principais desafios da implementação incluem restrições financeiras e de pessoal e a necessidade de maior vontade política para combater a oposição da indústria e alocar recursos financeiros adequados para continuar avançando nesta agenda.

Palavras-chave

Doenças não transmissíveis; legislação sanitaria; obesidade; Ilhas do Pacífico; Região do Caribe.