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# Perspectives on reforming the tobacco tax administration system in Bangladesh to enhance public health

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## ABSTRACT

**Background** Taxation is the most cost-effective instrument to regulate the consumption of tobacco products. However, weak tax administration can compromise the effectiveness of taxation. This paper aimed to understand the process of the current tobacco tax administration system in Bangladesh, identify gaps and outline the policy priorities to strengthen the tobacco tax administration process in Bangladesh.

**Methods** A sequential qualitative study was conducted in two linked phases: (a) document review and evidence synthesis; and (b) 20 key informant interviews and one workshop with relevant stakeholders to validate the findings generated from both phases.

**Results** The complex tax system combined with weak tax administration leads to tax evasion in Bangladesh. The processes of procuring and collecting banderoles and tax stamps vary between cigarette and biri companies, and across large and small tax-paying companies. The use of banderoles at the factory level is maintained manually, and there is no system to routinely verify the authenticity of banderoles. Many unregistered small-scale tobacco manufacturing units often reuse the banderoles on new packs. Shortage of staff with inadequate training at the National Board of Revenue restricts adequate tobacco market monitoring. Electronic tax stamps and banderoles combined with a secure digital tracking and tracing system should be introduced to better monitor the supply, distribution and sale of tobacco products. Training needs to be provided to develop capacity of relevant officials.

**Conclusion** The tobacco tax administration needs to be strengthened to increase the government's tobacco tax revenue and protect public health.

## INTRODUCTION

Using tobacco and tobacco products is the dominant cause of preventable deaths worldwide. According to the latest Global Adult Tobacco Survey, 35.3% of all adults in Bangladesh consume any form of tobacco product.<sup>1</sup> Tobacco use harms not only the users but also the people around them and the overall public health of any country. In 2017–2018, the economic cost of tobacco-related illnesses and deaths in Bangladesh was estimated to be 305.6 billion Bangladeshi taka (BDT), with an indirect cost of 221.7 billion BDT for annual productivity loss.<sup>2</sup>

An efficient tobacco tax system is one of the most cost-effective methods of reducing tobacco consumption. Tobacco tax structures influence

## WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Most previous research on tobacco taxation has focused on the economics of tobacco taxation, the mechanism behind setting tax rates, the tobacco companies' pricing strategies, or the affordability and price elasticity of tobacco products. However, no study has focused on tobacco tax administration, which is crucial for implementing tobacco taxation effectively.

## WHAT THIS STUDY ADDS

⇒ This paper identified gaps in Bangladesh's existing tobacco tax administration systems that require policymakers' attention in order to achieve effective enforcement of tobacco taxation.  
⇒ It also illustrates the further research needed in this field, specifically the factors that require more probing and exploring to eventually transition to specific taxation for tobacco products in Bangladesh.

## HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ This paper highlights the importance of tobacco tax administration systems to achieve the full potential of tobacco tax policy implementation in low/middle-income countries.  
⇒ This paper provides evidence to encourage policymakers to strengthen tax administration systems in order to reduce consumption and generate additional tax revenues in Bangladesh and countries with similar contexts.

the effectiveness of the taxation in achieving the government's public health and revenue goals.<sup>3</sup> Evidence shows that a 10% increase in cigarette prices would reduce overall cigarette smoking by 7.3%.<sup>4</sup> Considering different wealth groups, this 10% increase in cigarette prices would lead to a 9.2% decrease in cigarette demand among poorer people compared with 4.1% among wealthier people in Bangladesh.<sup>4</sup> However, despite Bangladesh's high tax rates (total tax burden including supplementary duty, value added tax (VAT) and health development surcharge) on maximum retail price, Bangladesh's cigarette price is among the lowest in the world. A complex multi-tiered, ad valorem tax system, which encourages consumers to switch to less expensive tobacco products and brands in response to price rises instead of quitting,



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is a major cause of this problem. Manufacturers also encourage continued consumption by exploiting the multi-tiered system, repositioning brands to lower tax tiers to avoid paying higher taxes.<sup>5</sup> Bangladesh's existing tax structure neither discourages consumption nor maximises revenue.<sup>6</sup> The tax structure can make a marked difference in how a tax increase ultimately raises prices and affects use of tobacco products.<sup>7</sup> Developing an efficient and effective tax administration ensures that the impact of health taxes is maximised and not undermined by tax avoidance and evasion, including illicit trade.<sup>8,9</sup>

Tax administration and control mechanisms can include different components: licensing or registration controls; recording and reporting mechanisms; and payment of excise and acquittal of liabilities requirements.<sup>10</sup> Regardless of tax structure, effective and efficient tobacco tax administration requires proper control and enforcement, competent authorities, and strong laws to prevent tax evasion and punish offenders.<sup>11</sup> Singapore has the strictest tobacco control environment in South-East Asia with strict licensing regulations for the import, export and trans-shipment of tobacco products, along with clearly designated tax enforcement authorities and other tax administration measures.<sup>12,13</sup> The government strictly supervises the sale, transportation and storage of tobacco products in Georgia.<sup>10</sup> Enforced compliance is carried out by imposing physical control in low-income and middle-income countries with poor administration systems.<sup>10</sup> The physical control systems in Thailand, India and Nepal on tobacco products are good examples where they use intensive controls on tobacco manufacturing.<sup>10</sup>

On the other hand, Moldova has been successful in tobacco taxation by constantly increasing tax rates, resulting in reduced cigarette consumption but also a shift in use from filtered cigarettes to low-cost non-filtered cigarettes.<sup>14</sup> This demonstrates the necessity for countries to simplify tax structures by combining multiple tobacco tax 'tiers' and standardising the tax rate on all types of cigarettes.<sup>14</sup> Moreover, a well-designed tax system is often not enough 'if the tax administration agency is lacking the technical and human capacity needed to implement and enforce it, as well as to reassess the system in the light of changing circumstances'.<sup>11</sup> A strong tax administration with proper implementation of licensing of production, distribution and sale, using tax stamps, adopting new technology, conducting physical control and monitoring, can reduce administrative and compliance costs, and close loopholes for tax avoidance and tax evasion.<sup>11</sup>

Since multiple price tiers present the possibility of tax fraud and avoidance, tiered tax structures, like the one in Bangladesh, require strong tax administration. Gaps in tax administration prevent the revenue stream from reaching its full potential.<sup>15</sup> Considering the importance of tobacco tax administration and limited evidence on the issue, this study aimed to understand the overall tax administration procedure for tobacco products in Bangladesh and to identify the limitations of tobacco tax administration. It also identified options for strengthening tax administration in Bangladesh.

## METHODS

We conducted a sequential qualitative study in two linked phases. The first phase included a desk review and evidence synthesis to identify the limitations of Bangladesh's tobacco tax administration in the context of the country's current tobacco tax structure. In the second phase, we conducted key informant interviews (KIIs) and arranged an interactive workshop to gather stakeholders' views on gaps in the tobacco tax administration

process and to identify policy priorities for strengthening the tobacco tax administration.

## Desk review

We reviewed policies, legislative documents, Statutory Regulatory Orders (SROs), research reports and peer-reviewed journal articles related to tobacco tax administration and also general tax administration. We also reviewed relevant policy briefs and tobacco tax proposals produced by national and international tax experts. Key search terms were used in the review process, which were broadly grouped into the following themes: "Tax administration", "Tobacco tax administration", "Tax administration in South Asia", "Illicit trade", "Tracking and tracing systems", and "Banderole and tax stamps". PubMed and ResearchGate were the databases searched during February–May 2022. Websites of the Ministry of Finance ([www.mof.gov.bd](http://www.mof.gov.bd)), Ministry of Health and Family Welfare ([www.mohfw.gov.bd](http://www.mohfw.gov.bd)), the National Tobacco Control Cell, Health Services Division, Ministry of Health and Family Welfare, WHO and relevant research organisations were searched. Reference lists of published articles and reports were used to identify additional relevant materials. The search strategy was guided by the understanding of languages (English and Bengali only) without any restriction of time period.

## Key informant interviews

We approached 23 key informants, 20 of whom consented to be interviewed. The major reason for declining was their busy schedule. Most of the respondents ( $n=14$ ) were current ( $n=12$ ) or former ( $n=2$ ) officials of the National Board of Revenue (NBR), including member, commissioner, additional commissioner, assistant commissioner and deputy commissioner. As NBR is the principal agency that implements, supervises and administers taxes for all industries and businesses, they provided valuable information regarding the current process and hindrances in the tax administration procedures. In addition, we also interviewed policymakers, tobacco control experts and researchers—taking two representatives from each group ( $n=6$ ). The respondents were purposively selected based on their extensive practical knowledge and experience in tobacco tax administration in Bangladesh.

Interviews were conducted by trained qualitative researchers using a topic guide. Respondents were asked a series of questions about tobacco tax administration in Bangladesh focusing on: (a) tobacco tax collection process, (b) monitoring the use of banderoles to keep track of tobacco companies' production and (c) challenges of tax administration. Interviews were conducted both virtually and face-to-face. A secure online meeting platform was used to interview the NBR officials working at the local levels residing outside Dhaka city. In-person interviews were conducted at their offices for those working at the central level. Interviews were conducted between June and August 2022.

Interviews were transcribed and translated verbatim by two trained researchers. Data were analysed using a thematic approach, a method of interpreting and analysing qualitative data in the form of texts such as transcripts or documents.<sup>16</sup> An initial codebook was prepared to analyse the qualitative data, which was later refined with the emerging themes.

## Workshop

We arranged a stakeholders' workshop with the objectives to: (a) share and validate the findings of the desk review and KII; (b) gather further insights of the stakeholders about the gaps in the tobacco tax administration systems; and (c) identify

the policy priorities for strengthening the tax administration systems. We invited 19 stakeholders, of which 14 participants joined including NBR officials (n=8), policymakers (n=2), academics (n=1), tobacco control experts (n=2) and a media representative (n=1). Among the 14 participants who joined the workshop, 2 had been interviewed earlier (one NBR official and one tobacco control expert) as key informants. We sought to minimise overlap between the KII and workshop groups to validate and triangulate the findings. The workshop discussions were organised around three themes in line with the three objectives stated above. We presented the key findings from desk review and KIIs, and requested their opinion and agreement/disagreement on the preliminary results. We also asked about information gaps identified through the desk review and KII. We recorded workshop comments and recommendations, which were then triangulated with the findings from the desk review and the KII. We audio-recorded the discussion with the participants' prior consent, and two researchers took detailed notes. Data were analysed thematically.

## FINDINGS

The findings are presented in two broad sections. First, we outline the current process and gaps in tobacco tax administration, and then identify the policy priorities for strengthening the tobacco tax administration in Bangladesh.

### Tobacco tax administration: process and gaps

#### Banderole/tax stamp collection and use

Bangladesh's cigarette and biri (a popular and cheap hand-made form of smoked tobacco found in the South Asia region)

taxation is imposed using the tax stamp and banderole (a type of fiscal marking used on cigarette and bidi packets to ensure taxation), which were introduced in 2000. Using banderole/tax stamps aims to confirm that due taxes have been paid and deter tax avoidance and evasion.

Tax stamps (length 45 mm and width 20 mm) are required by the NBR to be affixed on hard and soft packets of cigarettes (in five colours specific to tier and pack type) before they are released in the market, while banderoles (length  $140 \pm 0.5$  mm and width  $14 \pm 0.25$  mm) are required to be affixed on shell and slide types of packets (figure 1).<sup>17</sup> Tax stamps are affixed by stamping machine and the banderoles are affixed with glue.<sup>17</sup> Ideally, a single system (tax stamp or banderole) should be used for different types of tobacco products.<sup>17</sup> However, the current policy of the country requires the tobacco manufacturers to affix the tax stamp or banderole on cigarettes depending on the tier and packet type, and only banderole for biri (figure 1).<sup>17</sup> To outline the difference between the two, a respondent remarked:

One is affixed in a way that you have to tear it to open the packet of cigarettes, and the other one is used in packaging where you can just slide the packet to take out the cigarette/bidi. (KII\_07; central-level NBR official)

These markings, printed and distributed by the Security Printing Corporation (Bangladesh) Limited, are affixed on cigarette and biri packs.

Ensuring that tobacco companies are using banderoles/tax stamps as per regulations is the principal responsibility of the revenue officers (ROs) and assistant ROs of NBR. Cigarette companies operate under the 'Supervised Clearance' system,



**Figure 1** (A) Tax stamp on cigarette packet. (B) Banderole on biri packet.

through which the proper use of banderoles is to be ensured. Two to four NBR officers are required to be stationed at the factories in roasters round the clock, monitoring the production volume, banderole use, banderole stock, dispatch of the cigarette packets with proper banderole and duty paid, and entry of these data in the register books. However, in reality, often only one NBR official stays at the factory and only for a certain period of time.

NBR also needs to conduct regular inspections of the factory and the market to ensure proper use of banderoles. Though NBR is required to monitor compliance with proper tax stamps/banderoles, the inspections are reportedly irregular due to a shortage of trained staff, and are only conducted if suspicious activity is noticed or reported. One respondent stated:

NBR has two statutes regarding this. First is that our officials will be present at the factories to grant clearance of the goods. Secondly, our officials can inspect the factories at any time for gathering counter-intelligence or taking preventing measures and monitor whether they are properly affixing the stamps or not. (KII\_03; local-level NBR official)

Though the banderoles/tax stamps of cigarettes have many advanced security features, banderoles of biri are still of very poor quality and can be easily replicated. Many respondents stated that cigarette and biri packs are available in the market with fake banderoles, and some tobacco companies are involved in banderole fraud to evade taxes. Some respondents stated that banderole swindling occurs through fake banderoles brought from abroad. One respondent said:

When the banderoles of biri were first launched many years ago, bidi used to bring in only 1-2 taka per packet for the government. Additionally, these banderoles are quite cheap, likely only 7 or 8 paisa each packet. But now that the government earns around 9+ taka per packet of bidi, the quality needs to be improved to stop the use of fake banderoles. (KII\_02; local-level NBR official)

Furthermore, many unregistered small-scale manufacturers, operating in informal settings in rural areas, produce biris without banderoles. Shop owners and retailers in remote areas may lack proper knowledge of banderoles and related regulations. Thus, when someone sells these unauthorised biri/cigarettes, they are evading taxes and pocketing the entire price as profit. A few respondents commented that it is difficult for officers stationed at factories to monitor the banderoles/tax stamps of bulk amounts of tobacco packs, allowing opportunities for tax evasion. Moreover, the processes of surveilling cigarette companies' appropriate use of banderoles are manual, leaving space for discrepancy and manipulation.

Most respondents stated that NBR gives less priority to smokeless tobacco (SLT) taxation given its small share in tobacco tax revenue in Bangladesh. They noted that the SLT products have no tax stamp, and there are no requirements for affixing tax stamps or banderoles on SLT packs.

There are differences in the process of collection of tax stamp and banderole between cigarette and biri companies. Respondents stated that the cigarette companies under the Large Taxpayer's Unit (LTU) apply for a required number of tax stamp/banderoles. Cigarette companies not under LTU and bidi companies apply to their local customs, excise and VAT offices for tax stamp/banderoles. The LTU and the respective offices officially write to the security printing press for providing the number of banderoles and tax stamps the companies have requested. While cigarette companies collect the tax stamp directly from the security printing press, the biri companies collect them from the local

post office based on factory location. The security printing press records the information on which company is taking how many banderoles/tax stamps, and reports the information to the NBR. The banderoles that the security printing press makes for bidis use very low-quality paper and the security features on them are not advanced.

### Supply chain monitoring

Section 8.2 of the VAT and Supplementary Duty SRO<sup>18</sup> published in 2019 states all cigarette manufacturers and importers must submit the names and addresses of their selling points, dealers, agents and distributors to the relevant VAT commissioner's office.

When asked if all cigarette manufacturers and importers submit the names and addresses of their selling points, dealers, agents and distributors to the relevant VAT commissioner's office and how this provision is implemented, most respondents said that the NBR does not have these data. According to their statements, tax revenue from cigarettes is collected directly from the factory based on the retail price. Dealers, agents and distributors are not subject to VAT or taxation. As a result, NBR deems their information as unnecessary.

One respondent stated:

The companies are supposed to provide this information to the VAT Commissioners. And all the Commissioners ought to submit that to the NBR. The regulation and process are there but there is lack of enforcement. (KII\_03; local-level NBR official)

Another respondent added that sometimes the cigarettes are produced in one area and then transported to other areas for sale. The different locations of factories and selling areas also cause difficulties in collecting and updating detailed information about the people associated with supply and distribution. Without an electronic database, there are gaps in information flow among NBR officers across different levels. This creates scope for manipulation and fraud.

While one respondent stated that round-the-clock monitoring is essential in supervising and collecting taxes on tobacco products, another respondent reported the shortage of trained staff is a major problem:

We have 6 officers and more than 150 biri factories in our area. It is very difficult to monitor all these factories with only 6 people. (KII\_05; local-level NBR official)

### Price monitoring

The tobacco manufacturers are required to adjust the price of the products as prescribed by the government after the annual budget. Point-of-sale vendors are required to sell tobacco products to consumers at the maximum retail price printed on the cigarette packets. Monitoring for compliance is required.

A few respondents stated that it is also difficult to monitor the actual sale price of tobacco products in the market due to the NBR's staff shortage. A respondent said:

It is very challenging to monitor this price manipulation at the field level and address them. (KII\_03; local-level NBR official)

### Reporting and documentation

The monthly returns and invoices that tobacco companies submit to NBR are largely used to document various information on production and tax collection. When cigarette companies deliver products from factories, they must record how many cigarettes

they manufactured and distributed in a month, the tax paid, and submit a monthly return on production and supply.

Most of the big cigarette companies keep their accounts through software and online servers. As one respondent stated:

NBR has made it compulsory for companies having an annual turnover of more than 5 crore Taka to use the approved software by NBR. (KII\_08; central-level NBR official)

However, small-scale local cigarette and biri companies keep their accounts manually, creating opportunities for unscrupulous companies to manipulate accounts and evade taxes.

The NBR reports all tobacco taxation information in a hierarchical order, with the central office supervising the commissioners, the commissioners supervising the division offices and the division offices supervising the circle offices. Information flows from the grassroots offices to the central office and is saved on the NBR's server. However, the data cannot be accessed by all the officials. Only the commissioner and deputy commissioner have access to their division's data. Anyone who wants to see data from other divisions must request them from the information technology team. Though taxpayers' data are confidential and free flow of information across the organisation may risk security breaches, this access limitation has been reported as a constraint that prevents divisional-level officials from comparing and cross-checking information.

#### Tax structure and relevant contextual factors

Many respondents opined that the current multi-tiered ad valorem tax structure of cigarettes and biri makes the tax administration unnecessarily complex. In addition, the informal and often unlicensed settings of biri and SLT manufacturing also make tax collection difficult for the NBR.<sup>19 20</sup> Inadequate trained staff and logistics combined with the complex tax systems restrict tax administration.

Tobacco control experts and advocates advocate introducing specific taxation on tobacco products in Bangladesh.<sup>4 21</sup> The national and international tobacco control partners and tobacco tax experts jointly estimate and propose the specific tax rates and the pathway to increase tobacco taxation annually. The partners submit the recommendations to the NBR every year and also arrange a series of meetings with relevant stakeholders. However, most of the respondents stated that the NBR's lack of capacity is one of the major reasons for its hesitancy to move towards specific taxation. A few also raised concerns about whether there is sufficient evidence about the impact of imposing specific taxation on tax revenue in Bangladesh. One respondent stated:

A lot of the groups working on tobacco control initiatives have been advocating for specific taxes for some time now. But only advocacy or activism is not enough for bringing change. Where is the evidence that this system will work? (KII\_06; former NBR official)

Inadequate coordination across three wings of NBR—income tax, customs and VAT—was identified as a challenge for an integrated revenue management system, adequate flow of information and ensuring synergy among the three tax wings of NBR for supply chain and price monitoring and recording and reporting.

#### Reforming tobacco tax administration: priorities

##### Automation and digitisation

Automation and digitisation were prioritised by several respondents, stating that automating the manufacturing and digitising tax collection processes is critical to strengthen tax administration. Several respondents claimed that the possibility of error

in tax estimation and collection would be reduced drastically if the current manual systems of supervision and record keeping were digitised. A number of respondents suggested introducing electronic tax stamps.

##### Regulation and market monitoring

Most respondents prioritised taking immediate measures to bring the unregulated biri and SLT products under the NBR's monitoring and into the government's tax net. In addition, they suggested regular market monitoring to keep necessary checks and balances on the industry's price manipulations. Setting up a secure, digital tracking and tracing system of monitoring was suggested by a number of respondents.

##### Develop tax administration capacity

Another identified priority was enhancing the capacity of NBR employees, particularly those directly responsible for imposing and collecting taxes. As the NBR is understaffed in comparison with its workload, the issue of human resource constraints must be addressed. Many respondents stated that a smooth transition from ad valorem to specific taxation would require new standard operating procedures and manuals on specific taxation and hands-on training of NBR officials, both at the central and local levels.

It also emerged from the desk review and KIIs that the status, role and regulatory power of NBR need to be redefined with greater autonomy in their financial, organisational and personnel management.<sup>16</sup> Moreover, coordination among the three wings of NBR needs to be strengthened. Setting up a centralised database and transaction processing of the three wings can ensure synergies through building an information system that can mine data in the three databases and enable the required flow of information.<sup>21</sup>

##### Research and evidence

Because the current ad valorem taxation system has long been employed, NBR officials are trained on and accustomed to it, and despite its flaws, it generates a considerable amount of tax revenues. Respondents emphasised the need for robust research generating strong evidence on how tax administration should be strengthened, especially focusing on the reforms required for introduction of specific taxation. Respondents wanted examples of countries that have implemented specific taxes on tobacco products, details on their tax administration procedure, how they collect the taxes and the effects on revenue. Analysis of how these countries' experiences can be adapted in Bangladesh was needed. One respondent suggested:

Research also has to reflect on how we will implement the specific tax in our country, what will happen to price tiers, whether should we keep them all or should we bring it down to three, additionally, what will happen to revenue? (KII\_07; central-level NBR official)

## DISCUSSION

This paper explored aspects of the current tobacco tax administration in Bangladesh and identified priorities for system reforms that could advance transition to the globally recommended specific taxation system for tobacco products (see [Box 1](#)). Bangladesh currently has a complex, multi-tier, ad valorem tax structure for tobacco products that permits tax avoidance, allows price manipulation and results in neither reduced tobacco consumption nor optimal tax revenue for the government. This

## Box 1 List of priorities for reform

- ⇒ Advance transition to the specific taxation system for tobacco products.
- ⇒ Automate the manufacturing and digitising tax collection processes; and set up a secure, digital tracking and tracing system of monitoring.
- ⇒ Strengthen coordination among the three wings of the National Board of Revenue (NBR).
- ⇒ Bring the unregulated biri and smokeless tobacco products under the NBR's monitoring and government's tax net.
- ⇒ Develop new standard operating procedures and manuals on specific taxation.
- ⇒ Provide hands-on training of NBR officials, both at the central and local levels.
- ⇒ Allocate additional resources to NBR officials for site monitoring and enforcing compliance.
- ⇒ Conduct research to generate evidence to strengthen tax administration.

study suggests that simplifying the current tobacco tax structure could enhance tax compliance.

However, the study also makes clear that regardless of the type of tobacco tax structure, providing more resources for the institution charged with monitoring and enforcing compliance will be essential. Inadequate NBR personnel, inadequate training, lack of digitisation and lack of coordination across branches must be addressed.

The study has limitations. Tax administration covers a wide range of issues not explored in this study. Further research is required to capture other aspects of the overall tobacco tax administration. We interviewed some NBR officials from outside Dhaka over a secure online platform. However, face-to-face interviews might have elicited additional perspectives. Additionally, limited information was collected on the tax administration of SLT products as most respondents had little experience with them.

## CONCLUSION

Though Bangladesh has high tobacco tax rates, prices remain very low and quite affordable. The multi-tiered ad valorem tax structure and the weaknesses in tax administration systems reduce the intended effects of tax measures, and create opportunities potentially benefiting the tobacco industry and depriving government of tax revenue. The tobacco tax administration must be strengthened immediately to protect public health goals and ensure compliance.

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**Ethics approval** This study involves human participants and ethical clearance was received from Bangladesh Medical Research Council (BMRC/NREC/2022-2025/176). Written consent was obtained for face-to-face interviews and recorded verbal

consent for online interviews. Data confidentiality and respondent anonymity were maintained.

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**Data availability statement** Data are available upon reasonable request. We have the anonymised transcripts. If requested, we can share the data.

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