



## Community Insight Project

# Report on Paan and Smokeless Tobacco Product Use amongst Bangladeshi Women Church Street, Westminster January-May 2013

Literature review on the health impact of paan chewing and the effectiveness of interventions for prevention and quitting

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# 1. Introduction and Background

During 2013/14 the local Smokefree Alliance (on behalf of the City of Westminster, the Royal Borough of Kensington and Chelsea, and the London Borough of Hammersmith & Fulham) is planning a refresh of its 'Tobacco Control Strategy' and the Public Health Department (covering the same three boroughs) is re-commissioning the borough-based 'Stop Smoking Services'. These factors, combined with the recently published guidance by the National Institute for Health and Clinical Excellence (NICE) on smokeless tobacco cessation<sup>1</sup> and grassroots interest amongst the local Bangladeshi population around doing something to support smokeless tobacco cessation, provided impetus to investigate the size of the problem locally in more detail and how the local service offer could be improved to support current users to quit and prevent future uptake.

The use of paan and smokeless tobacco products is known to be highest amongst those with ancestral links to South Asia, particularly Bangladesh. There is a large Bangladeshi population within Westminster, with many (around a fifth of the borough's Bangladeshi population) living in and around Church Street Ward. Research in other areas has shown the practice of chewing paan/tobacco is more common amongst women, compared to men, and women who chew paan/tobacco are also less likely to smoke than men. Detailed local and national information about the prevalence of this habit is however limited. There are numerous health risks associated with the use of paan/smokeless tobacco products but research has shown a comparatively low awareness of those risks amongst users. In addition, the NICE guidance published in 2012 on smokeless tobacco cessation for South Asians, highlighted the limited evidence of what works to support users of these products to quit or reduce their habit. These factors all contributed to the design of this community-led insight project to look in more detail at patterns of local use (prevalence, products, frequency, availability and reasons), awareness of the health risks, motivations amongst users to give up and ideas for services/activities to support users to quit. This report summarises the findings of this insight project and makes some recommendations for possible next steps.

As part of this project a literature review was undertaken, to supplement the evidence reviewed by NICE,<sup>a</sup> looking in particular at the health impacts of the various paan and smokeless tobacco products used by the Bangladeshi population and potential solutions. The full literature review is found in **Appendix D** but, where relevant, the key findings have been incorporated throughout this report and in the recommendations.

## 1.1 Background to chewing tobacco/paan use

Use of chewing/smokeless tobacco and paan products is common amongst certain population groups, notably those of South Asian origin (people with ancestral links to Bangladesh, India,

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<sup>a</sup> The NICE guidance (2012) focuses on smokeless tobacco, but it is known that the Bangladeshi population use a multitude of paan products, which may or may not contain smokeless tobacco. As such, a separate literature review was carried out to understand the risks to health of all the different components in paan, including betel nut, which is known to be carcinogenic in its own right.

Nepal, Pakistan and Sri Lanka). Survey data suggests that amongst the South Asian population in the UK, the use of smokeless tobacco is more prevalent amongst those of a Bangladeshi origin, those from older age groups, first generation migrants and those from lower socioeconomic backgrounds.<sup>ii, iii,iv,v</sup>

The City of Westminster has a large South Asian community (including 6,299 Bangladeshi residents).<sup>b</sup> 21% of Westminster's Bangladeshi population live in Church Street Ward, which is the largest concentration in the borough. The 2011 Census showed that the Bangladeshi population make up 11% of the ward population. Church Street is also one of the most deprived wards in Westminster, with comparatively low life expectancy and one of the highest rates of premature mortality (deaths under 75 years of age) in London: over the years 2006-10, the life expectancy at birth for males in Church Street Ward was 73.6 years and 76.6 years for females, compared to a borough-wide average life expectancy during the same period of 82.3 years for males and 86.3 years for females.

**Figure 1 Map of showing the Lower Super Output Areas (LSOA) within Westminster, Kensington and Chelsea and Hammersmith and Fulham which fall within the highest quintile (20%) within London for the proportion of population being of a Bangladeshi ethnicity (2011 Census data)**



There are currently no clear estimates as to the prevalence of smokeless tobacco use amongst South Asian communities within Westminster. An informal survey undertaken by Mosaic Community Trust, a local voluntary and community sector organisation, in May 2012, indicated

<sup>b</sup> The Bangladeshi population in the London Borough of Hammersmith & Fulham is 1,056 and 850 in the Royal Borough of Kensington and Chelsea (2011 Census).

that the prevalence of chewing tobacco use among local Bangladeshi women may be as high as 30%.

There is also limited national evidence on the prevalence and severity of smokeless tobacco usage, and patterns have been seen to vary from area to area.<sup>vi</sup> The Health Survey for England in 2004 indicated that 9% Bangladeshi men and 16% Bangladeshi women use smokeless tobacco.<sup>vii</sup> In some localities, however, it is likely that prevalence is higher and underreporting is believed to be common: one study comparing self reported data with saliva cotinine levels, collected during the Health Survey for England (1999 and 2004), for instance, found that 15% of the Bangladeshi women sampled did not report personal tobacco use (of which the majority was chewing tobacco use), when they did in fact use it.<sup>viii</sup> A cross-sectional study in Tower Hamlets, based on a combination of questionnaire and saliva analysis (to establish levels of cotinine), using residents selected randomly from the electoral register, showed that 48.5% of adult Bangladeshi women in the local population were using smokeless tobacco products.<sup>ix</sup>

Within South Asian communities a variety of smokeless tobacco and paan products<sup>c</sup> are used, in different combinations. In addition to tobacco itself, products used include paan leaf, areca/betel nut, slaked lime, flavourings and sweeteners, which on their own, and as a collective, can impact on the user's health.<sup>x</sup> Not all users choose a combination containing tobacco when constructing their paan. The variety of products used in different combinations, with different colloquial names makes it difficult to always compare prevalence studies from different areas. It also highlights the importance of tailoring insight work and needs analysis, as well as potential solutions, to the local communities who use the products.

## 1.2 Health risks of chewing tobacco

Chewing tobacco products are associated with a number of health problems including:

- nicotine addiction (blood nicotine levels may be as high, if not higher than cigarette users)
- mouth and oropharyngeal cancer
- other dental and oral disease, including oral submucous fibrosis and periodontal (gum) disease and late diagnosis of dental problems (because the smokeless tobacco products can mask pain which would otherwise be felt)
- cardiovascular disease
- metabolic syndrome (combination of diabetes, high blood pressure and obesity)
- problems in pregnancy and following childbirth (including foetal anaemia, placental pathology, stillbirth, pre-term birth, and low birth-weight).<sup>xi,xii, xiii,xiv,xv,xvixvii,xviii</sup>

Despite this, community research has indicated that there is a lack of awareness of the health risks of using chewing tobacco products, with some users believing the products in fact confer a health benefit such as acting as a digestive and breath freshener, or to ease dental pain.<sup>xix,xx,xxi</sup>

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<sup>c</sup> Note, in this report the term smokeless tobacco is used to describe the use of a specific group of chewing tobacco and paan products, such as areca/betel nut, which is particularly prevalent amongst South Asian population. The report does not discuss the use of other forms/uses of smokeless tobacco such as snuff, which is inhaled or sniffed into the nose, or snus, which is placed under the upper lip, and used in Scandinavia and the US.

Since 1989 there has been a steady increase in the rates of oral cancer in the UK.<sup>xxii</sup> Consumption of tobacco (smoked and smokeless) is one of the most established risk factors for oral cancer (over 90% of patients with oral cancer use tobacco in some form). In the case of both smoking and chewing tobacco, the risk is dependent on dose and duration of use. Areca/betel nut, often used with smokeless tobacco, is also carcinogenic in its own right (cancer-causing). Although it is not known how the use of smokeless tobacco products is linked to the increase in oral cancer, it has been shown that South Asian women are 3.7 times more likely to have oral cancer and 2.1 times more likely to have pharyngeal cancer compared with other women (and they are also some of the principal users of smokeless tobacco). This has been found to be the case, even after controlling for the effect of socioeconomic deprivation.<sup>xxiii,xxiv,xxv,xxvi</sup> The directly age-standardised registration rate for oral cancer,<sup>d</sup> diagnosed between 2008-2010, was 10.95 per 100,000 European population in Westminster, compared to 9.48 for England and 9.96 for London, although the difference was not statistically significant (Cancer Registry data). This data is not available at the local level by ethnic group.

At least three-quarters of oral cancers could be prevented by the elimination of tobacco use and a reduction in alcohol consumption. The removal of these two risk factors also reduces the risk of second tumours in people with oral cancer. Smoking cessation is associated with a rapid reduction in the risk of oral cancers, with a 50% reduction in risk within 3 to 5 years.<sup>xxvii</sup>

Studies have also suggested that the health risks of chewing tobacco may be compounded by the fact that some South Asian users of these products may be less likely to visit the dentist on a regular basis, and as such any risk to their health or developing disease may be less likely to be identified.<sup>xxviii,xxix</sup> Early detection of oral cancer is an important factor in the likelihood of survival: whereas the 5-year survival rate of mouth cancer is as low as 50%, early diagnosis can increase this to 90%.<sup>xxx</sup> Prevention is also key, since oral cancers can be hard to detect at their early stages, when treatment would be most beneficial, and, due to the anatomical structures which may be affected, they are complex to treat.

### **1.3 Supporting users to quit using**

In September 2012 the National Institute for Health and Clinical Excellence (NICE) issued public health guidance on *Smokeless Tobacco Cessation: South Asian Communities*.<sup>xxxi</sup> Despite the high prevalence of use and the health risks associated with smokeless tobacco products, NICE found a lack of information nationally about the existence of smokeless tobacco cessation initiatives as well as evidence of their effectiveness and cost effectiveness. One of the reasons for this is that tobacco cessation initiatives have historically tended to centre on smoking rather than use of smokeless tobacco products. The local, Westminster stop smoking service has historically been an example of this. It has been commissioned as a Stop Smoking Service, with targets set by the Department of Health around numbers of cigarette smokers quitting after 4 weeks. That being said, the team do discuss chewing tobacco (as well as other niche tobacco products) and its associated health risks in their level 1 and level 2 training packages, prevention work in schools and when giving talks with the local community on an opportunistic basis.<sup>xxxii</sup> There is

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<sup>d</sup> Oral cancer (ICD-10 codes C00-C14)

currently no tailored intervention package, however, for those who use paan/chewing tobacco products, particularly those not using cigarettes as well. Those who smoke are offered smoking cessation support either on a one-to-one or group basis, and that might include psycho-social support as well as nicotine replacement therapies.

NICE provided recommendations for local bodies, including the NHS, Local Authorities and voluntary and community sector organisations around assessing the local use of smokeless tobacco products, commissioning of smokeless tobacco support services, training and opportunities for health professionals to brief provide advice and referrals to specialist services. The recommendations specified that any service developed to support individuals to stop using smokeless tobacco, whether it be brief interventions carried out by trained health professionals or specialist tobacco cessation services, is co-produced with the local community, accessible and culturally appropriate, and relates to the specific motivations users have.<sup>xxxiii</sup> (More information on NICE's recommendations for services is given in **Section 5**, below). The importance NICE places on co-production, was mirrored in this insight project – in order to feed into any potential solutions, it was felt to be important to find out what the local needs were, as voiced by the local community, the motivation for quitting/reducing habits and what the community felt would support them in doing so.

#### **1.4 Overview of insight project**

In order to fill some of the gaps identified above around local patterns of use, particularly women's use, awareness of the health risks of chewing paan/tobacco amongst local users, their motivation to give up and what the local community felt would be the best solutions to support potential quitters, an insight project was designed to be delivered by the Church Street Community Health Champions, who are all women with ancestral links to Bangladesh, with support from Mosaic Community Trust, a local voluntary and community sector organisation.

The research process and findings of this insight project are outlined in the next few sections of this report (**Sections 2-4**). The insight from this community-led insight project has been used to generate some recommendations for the next steps in developing a local offer to support current users wishing to quit/reduce their habit (outlined in **Section 5**).

## 2. Research methodology

The key stages of the insight project included:

- Initial stakeholder meeting
- Insight gathering workshop with the local community
- Questionnaire design
- Questionnaires carried out by Community Health Champions
- Data analysis
- Workshop with Community Health Champions to discuss the interpretation of the findings and next steps.

It is these stages which are discussed in more detail in this section of the report.

### 2.1 Project planning stage

Following a successful funding bid from the Tobacco Control Alliance (this has since been re-named the Tri-borough Smokefree Alliance), Mosaic Community Trust<sup>e</sup> was commissioned to conduct a piece of insight work into smokeless tobacco use amongst Bangladeshi women in and around Church Street in Westminster, with the support of the Local Authority Public Health Team and one of the Consultants in Dental Public Health at Public Health England. At the start of the project, a meeting was held with key stakeholders to scope the project plan. It was decided that the questionnaire, which was to form the main component of the insight work, should be conducted by the ten female Church Street 'Community Health Champions', hosted by Mosaic Community Trust, who all have ancestral links to Bangladeshi. (Community Health Champions are volunteers from local communities who work to connect their friends, families and neighbours to local services and spread key messages about health and wellbeing. They are a public health commissioned programme and Mosaic Community Trust is the host provider for the Community Champion project in Church Street).<sup>f</sup>

The use of women from within the local Bangladeshi/Bengali population to conduct the questionnaire was a key aspect of the methodology, since it was felt that:

- they would be best placed to know how and where to reach the local population (the Church Street Community Health Champions have a caseload of families they work with on a regular basis, to provide support around health and other issues, who could form the initial cohort for conducting the survey);
- they could translate as necessary the questionnaire into community languages;
- and, perhaps most importantly, given the sensitivity of the subject and frequent under-reporting, it was felt peers from the local community had the best chance of getting women to honestly discuss their own and their family's chewing tobacco use.

The Community Health Champions are expected to gain a Level 2 Award in Understanding Health Improvement, as part of their training, accredited by the Royal Society of Public Health,

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<sup>e</sup> Mosaic Community Trust <http://www.mosaiccommunitytrust.org.uk/> (website accessed June 2013)

<sup>f</sup> <http://communitychampionsuk.org/> (accessed January 2014)

as well as undertaking training in community research. For this project they were also given additional training in qualitative research methodology (interview skills) before they started the insight work.

## **2.2 Insight-gathering workshop**

In March 2013, a workshop was organised at Church Street Library to discuss key themes around paan/tobacco chewing with the local community, to inform the questions used in the survey. The workshop was facilitated by the Community Champion Project Coordinator and representatives from Mosaic Community Trust, the local Consultant in Dental Public Health and members of the Tri-borough Public Health Team, acted as chairs and note-takers. (The discussions were not tape-recorded but detailed notes were taken to capture the discussion). The ten Community Health Champions who would be conducting the questionnaires attended and brought with them 16 women of varying ages from the local Bangladeshi community, to share their knowledge and experiences around paan/tobacco usage. Topics discussed included the names and types products in common use, the level and frequency of consumption, where products were bought and how much they cost, awareness of health impacts from chewing tobacco and support services available (the topic guide is reproduced in **Appendix A**).

## **2.3 Questionnaire**

The Public Health Team used the material from the insight workshop to draft a questionnaire to investigate these topics in more detail, and explore how representative the views of those participating in the workshop were of the experiences of the wider community. The findings from the workshop were also used to ensure the questions were phrased in a culturally appropriate manner. Where possible, questions, relating for example to health service use, were taken from validated national surveys to allow comparison with other data sets.

Once drafted the questionnaire was brought to a second workshop with the Community Health Champions, and modified to reflect their expertise around paan and tobacco use, and their views as to how the questionnaire might work with the local community. This also provided an opportunity for the Community Health Champions to pilot the questionnaire. The final survey is included in **Appendix B**.

The questionnaire has 29 questions and was designed to take around 10-15 minutes to complete. The Community Health Champions conducted the questionnaire with the respondents, so the questionnaire took the form of an interview. In addition to capturing information around the amount and frequency of each respondent's use of chewing tobacco/paan, the questionnaire was structured to capture information about the use of other members of their household, to try to understand the prevalence within the wider community.

It was anticipated that each Community Champion would conduct a minimum of 20 questionnaires each, resulting in a sample size of between 200 and 250. (The 2011 Census indicated a population of around 1300 Bangladeshi residents in Church Street Ward. This data is

not currently available by age but if the Greater London Authority (GLA) 2012 Round Ethnic Group Population Predictions for adults/children within the Bangladeshi population in Westminster as a whole are applied to the Census population for Church Street Ward, there are an estimated 770 adults of a Bangladeshi ethnicity living in Church Street Ward). In practice, 263 questionnaires were completed during April and May 2013 (a sample of approximately 34% of the local adult Bangladeshi population).

The focus for the questionnaire was the female Bangladeshi population in the Church Street area and, as such, the questionnaire collected information about gender, ethnicity, place of birth and postcode to enable the researchers to understand the reach of the insight work in targeting this community. The questionnaires were to be conducted using a purposeful methodology, whereby the Champions would opportunistically approach local Bangladeshi women through a combination of door knocking, attendance at community events, visiting community venues, and using personal contacts, such as individuals on their caseload, as part of their wider Community Health Champions work. They used these women to then identify other women to participate in the questionnaire (snowball methodology).

88 (41%) of the respondents were among the families that the Community Health Champions work with on a regular basis (their caseload). Consequently the majority of interviews took place in a home environment: either the house of the interviewer (31% cases) or the respondent (36% cases). 13% were held in a public place such as the local library, market area or school and 3% were carried on the street. The location was not specified for the remainder of the interviews, but some of the Champions reported having carried out some interviews in the local park.

The majority of the Community Health Champions targeted women (and some men) who they knew chewed paan/tobacco products. Some Champions, once they had exhausted the list of individuals who were known to them, approached others on a more random basis, without prior knowledge of their chewing/tobacco habits. Since the questionnaires were not randomly sampled, the results will not be able to be taken to be truly representative of the chewing tobacco/paan use of all the Bangladeshi women living in and around Church Street. Furthermore since many of the respondents were targeted because they chewed paan/tobacco the findings cannot be used to provide an accurate figure of the population prevalence of the habit of paan/tobacco chewing. Given the sensitive nature of the subject, however, it was felt that undertaking a purposive sample might produce more realistic results of local usage, and through targeting those who use paan/tobacco, a fuller picture of the population's motivation to quit and potential solutions to support them to do so might be obtained.

## **2.4 Data analysis and interpretation**

The Public Health Team developed a database for the questionnaire responses to be uploaded into and provided training for one of the employees at Mosaic Community Trust to input the data. On completion, the data entries were double checked by a member of the Public Health Team. Data collection and storage was structured to follow Westminster City Council ethics

processes and meet the criteria required under data protection: individual identifiable data such as names, date of birth and full address were not collected as part of the questionnaire.

The project was set up to capture insight from Bangladeshi women. In the event, 31 of the 263 respondents to the questionnaire were male and in 7 cases the gender of the respondent was not recorded. Since patterns of tobacco consumption are known to vary by gender, in the data cleaning, the 7 unknown genders and the 31 men were excluded from the general analysis. That being said, where relevant, such as when analysing the type of products used by individuals, the responses given by the men and women have been compared. Some of the men were related to some of the female respondents.<sup>6</sup> This should not, however, matter for the purpose of the analysis presented in this report, since the data from the male respondents has only been used for their discussion of their personal tobacco/pan use.

The ethnicity of the survey respondents is provided in **appendix c**. Since the target population for the survey was residents of Bangladeshi/South Asian origin, the few respondents for whom their ethnicity was not recorded or their ethnicity was something other than Bangladeshi, Pakistani, Indian, Other Asian or Mixed were excluded from the final analyses. Once these data and the responses from the unknown genders were excluded there remained 217 female respondents and 31 males. The report focuses on the findings from the 217 females.

The data collected from the questionnaire has been analysed by question. Since a few questions were left blank in a few of the returned questionnaires, the valid total displayed for each question may vary. Furthermore, some questions were only asked to a subgroup of respondents (depending on the respondents' answers to preceding questions) and, as such, the base for these questions is lower.

## **2.5 Discussion group**

Following the initial data analysis phase, the Public Health Team shared the results at a third workshop with the Community Health Champions. This workshop was used as an opportunity for the Champions to advise as to how the data should be interpreted and to shape the recommendations for the next steps around developing initiatives to raise awareness of the health risks and a model to support behaviour change locally. Notes were taken at the workshop and, where relevant, these have been fed throughout the report in the interpretation of the findings and the recommendations section. This group discussion is referred to as 'post-insight workshop' within the report, to distinguish it from the 'initial insight-gathering workshop.'

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<sup>6</sup> This was something discussed at the post-insight workshop with the Community Health Champions.

### 3. Results: Insight-gathering workshop

At the start of the research process, an insight-gathering workshop was held by the Community Health Champions, with support from other stakeholders, with women from the local community. This was used to generate ideas for, and frame questions in, the questionnaire: to ensure the questions asked were phrased in a culturally appropriate manner and to investigate how representative the views expressed by the workshop participants were of views and experiences of the wider community. Topics discussed during the workshop included the names and types of products in common use; the level and frequency of consumption; where products were bought and how much they cost; and awareness of health impacts from chewing tobacco and support services available (the topic guide is reproduced in **Appendix A**).

Insight generated by participants at the workshop included the following:

#### *Use of paan/chewing tobacco*

- Participants noted that consumption levels among members of the community ranged from from occasional use at weddings and festivals to upwards of 10-20 times a day
- Many women started to consume paan/chewing tobacco when they got married, in Bangladesh, and/or at social events
- Younger, better-educated individuals and those who had grown up in more urban areas in Bangladesh, were seen as groups less likely to use paan/chewing tobacco
- The women reported that their husbands chewed tobacco/paan less frequently, preferring cigarettes on the whole. Some women, however, commented that they disliked the smell of cigarettes, and saw them as unhealthy
- Some women reported using paan/chewing tobacco to relieve morning sickness
- It was commented that following a meal was a popular time to chew
- Consumption patterns can vary, for example during Ramadan.

#### *Availability and cost*

- The cost of paan and chewing tobacco products was not seen as a barrier to use
- The products can be bought individually and loose; and also as pre-prepared mixes
- Betel nut/supari was thought to cost around £5/kilo; paan leaf around £8/kilo and tobacco around £30/kilo
- Often these products are bought in bulk in large packets; paan leaf is bought fresh and therefore more regularly, as it only lasts a few days
- The participants reported that the products used were easily available from local Asian grocery shops and pre-prepared versions could be purchased from restaurants, although some travelled to other parts of London (particularly East London) to purchase some items
- Although initially the women said that it was only adults who purchased the products for the household, on further probing some admitted that, on occasion, children might pick up the products from local shops on behalf of other family members (although it was not clear which paan products they were referring to).

### *Health Impacts*

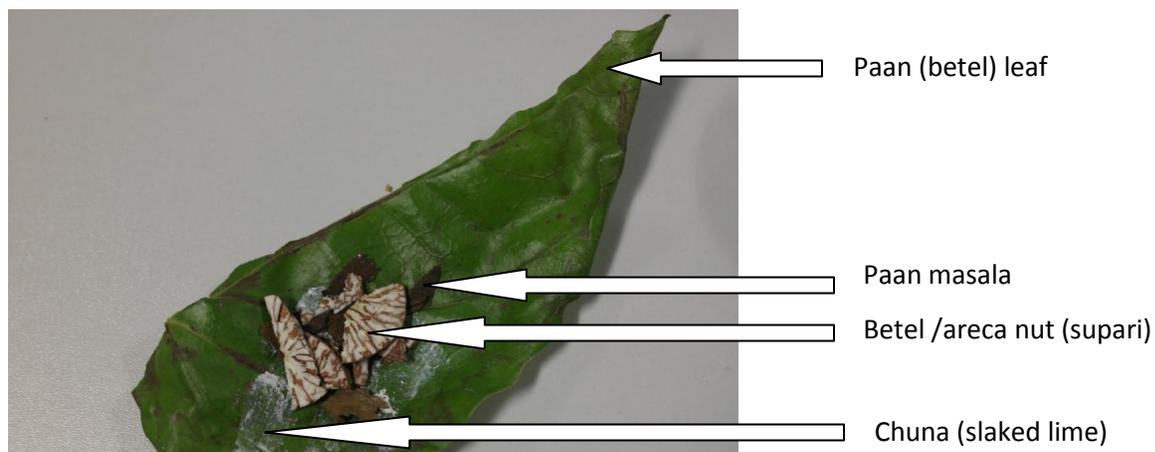
- Beliefs around the benefits of paan/chewing tobacco cited by the participants included: relieving morning sickness, keeping teeth and gums healthy, used as a mood elevator, dulling pain e.g. for toothache, freshening breath
- Negative aspects of chewing tobacco/paan expressed by the women included: exacerbate heart conditions, acidity, gastritis, loss of taste, finding food too hot and spicy, loss of appetite, feeling dizzy, feeling hot and sweaty, gum disease and mouth ulcers.

### *Giving up*

- Very few participants had given up paan/chewing tobacco; a few had tried to cut down
- Many felt it would be difficult to stop, and that reducing their habit would be more realistic
- Although dentists and GPs had advised some participants to stop chewing, they commented that health professionals had not followed this up with information about how to achieve this or signposted them to any available support
- Ideas given for potential support services included: peer support, discussion groups, education to raise awareness of the effects, having a safe-alternative
- Some reported that during Ramadan there are sometimes messages suggesting that if you can give up during Ramadan, why not give up altogether.

During the workshop some of the participants brought with them different paan and chewing tobacco products. Some of these are shown in the photographs in figures 2 and 3. These were used to explore the different combinations of products used by the participants and the various names given to the products locally.

**Figure 2 and 3 – Photographs showing components of paan products**





The main paan products were seen as:

Name	Description	How used
Paan (made from betel leaf)	Refers to the leaf and also the combination when other products are inserted in the leaf to be chewed	Chewed on its own or wrapped around other products (such as tobacco, betel nut, sweet spices)
Tobacco	Also known as Sarda/Zarda, can come in sweetened/unsweetened varieties	Chewed on its own or wrapped in a betel leaf/paan
Betel nut (areca nut)	Also known as supari	Chewed on its own or sliced and wrapped in a betel leaf/paan. Bought separately or sometimes included within a 'paan masala'; stains the teeth and lips red when chewed
Chuna/Chun	Slaked lime paste, calcium hydroxide	Can be used to bind the paan leaves
Paan masala	Pre-prepared mix to add flavouring to paan (but some users make the equivalent at home) e.g. gutka	Can be chewed on its own or added to paan. Contains spices and flavourings and betal/areca nut, but also sometimes tobacco.

## 4. Results: Questionnaire

### 4.1 Overview of respondents

In total 217 women completed questionnaires. It is the responses of these 217 women who form the basis of the analysis here and are referred to as 'respondents' throughout the next section unless otherwise stated (where appropriate these are compared to the responses given by the 31 men who also participated in the questionnaire, notably around the types of tobacco/pan products used).

The postcodes of residence given by female respondents could be validated in 197 cases. Of those, 134 (68%) were from Church Street ward and 161 (82%) were from either Church Street or one of its neighbouring wards (Regent's Park, Little Venice, Hyde Park and Bryanston & Dorset Square). The majority (99%) were Westminster residents.

The majority of respondents reported their ethnic origin as Bangladeshi (98%). The remainder were of Indian, Pakistani, Other Asian or a Mixed ethnicity. 95% were born outside the UK. Of those born outside the UK, 82% were born in a rural area and 18% in an urban area (this question was included since previous research has shown that first generation migrants and those from a rural area were more likely to chew tobacco products<sup>xxxiv,xxxv</sup>). Information was not collected on the socio-economic background of respondents, but other studies have shown that the habit of paan/tobacco chewing is more prevalent amongst those from lower socio-economic groups.<sup>xxxvi,xxxvii</sup>

The spread of ages was quite wide, with 25% of the cohort aged 15-34 years; 43% aged 35-54 years; and 31% aged 55 years and over. Further detail about the demographic characteristics of the respondents is given in **Appendix C**.

88% of the respondents (192) reported using tobacco/pan products currently.

### 4.2 Health & service use

Due to the impact of paan/chewing tobacco products on health and the potential opportunities for health professionals to offer brief interventions/signposting around support for quitting, questions were included in the questionnaire around the respondents' current health and their health service use, notably their use of GP and dental services.

Almost all the respondents (99.5%) reported being registered with a GP. The majority (97%) have been to the GP in the last year, with 60% attending 4 or more times. The average number of GP visits totalled 4.5 per person per year in this study compared to a national average of 3.1 for England (data from 2008).

83% of respondents (177) reported being registered with a dentist and 125 of them (58%) have been to the dentist in the last 24 months. To put these data in context, latest access figures for

Westminster from December 2012 show that 49.4% of adults attended a dentist in the previous 24 months compared to 52.4% in England. (It should be noted that this published data only includes data from NHS practices and many residents in Westminster attend private dentists, which are not included). The national Adult Dental Health Survey (2009) found that 82% of adults (with teeth) had been to dentist in last 2 years (this includes NHS and private dentists).<sup>xxxviii</sup> The 1999 Health Survey for England (HSE), which was focused on the health of minority ethnic groups, found that for all minority ethnic groups, including Bangladeshi respondents regular dental attendance (age-standardised) for both men and women was significantly lower than for the general population. The HSE also found that in addition to irregularity of attendance, South Asian men and women were around 2 to 3 times less likely than the general population ever to visit a dentist.<sup>xxxix</sup>

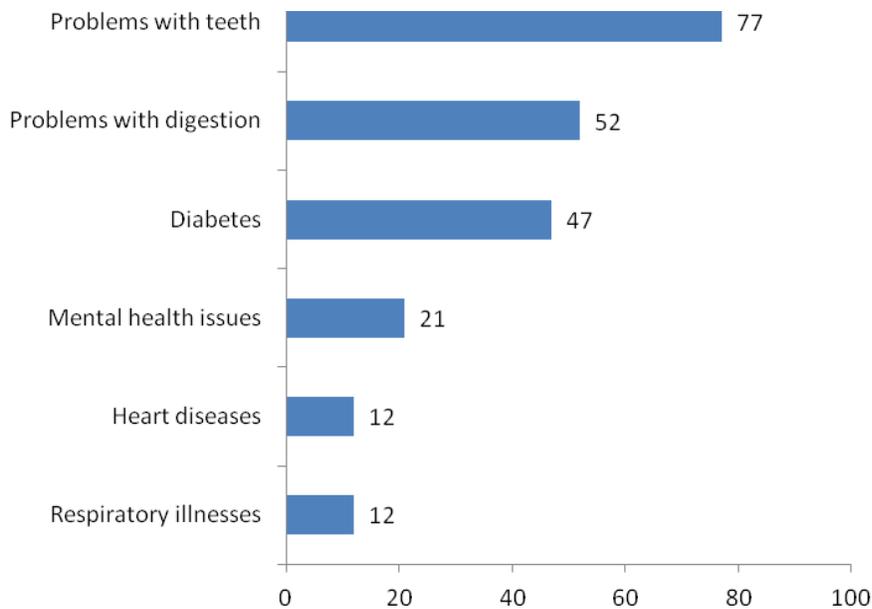
Respondents in this insight project were also asked about the reason for their last visit to the dentist. Reasons given for the last visit to the dentist (within last 2 years) were: as part of a regular check up (52%); to continue a course of treatment (14%) and for 47 individuals (34%) it was because they were in pain. Unfortunately there is no straightforward national comparison for these findings: the Adult Dental Health Survey (2009) asked why people usually attend the dentist – they found 61% dentate adults (adults with teeth remaining) usually attend the dentist for a check up, with a further 10% attending occasionally. 27% report attending only when they have trouble with teeth. For women a slightly higher proportion tend to attend for a check up - 68% of women, compared with 54% of men. Similarly, a smaller proportion of women than men said that they attend only when having trouble with their teeth: 22% of women compared with 32% of men.<sup>xi</sup>

Some studies have argued that the health risks of chewing tobacco may be compounded by the fact that some South Asian users of these products may be less likely to visit the dentist on a regular basis, and as such any risk to their health or developing diseases, including oral cancer, may be less likely to be identified.<sup>xii,xliii</sup> Although attendance may be lower than amongst other population groups, this insight project has shown that a large proportion of the respondents have attended the GP and/or dentist in the last year/two years, highlighting the availability of opportunities for discussion of their paan/tobacco chewing habit and the possibility for offering a brief intervention/signposting.

The respondents were also asked about any current health problems they were experiencing. As figure 4 shows, by far the most common health problem reported by respondents was a problem with their teeth (77 respondents). This was followed by problems with digestion (52 respondents) and also diabetes (47 respondents). Chewing tobacco/paan is known to cause problems with teeth and the oral cavity but it is unknown whether these individuals' reported problems are related to their habit of chewing paan/tobacco. The same is true of digestion, which was something that the participants in the insight workshop felt was linked to paan chewing. Other studies have shown that some people use paan/chewing tobacco in order to help with digestion.<sup>xliiii</sup> As figure 5 shows, a third of the respondents had no reported health problem from the list in figure 4: 147 individuals (68%) had at least one problem; 43% had one of the problems listed and 17% had two. The level of disease in this population may be related

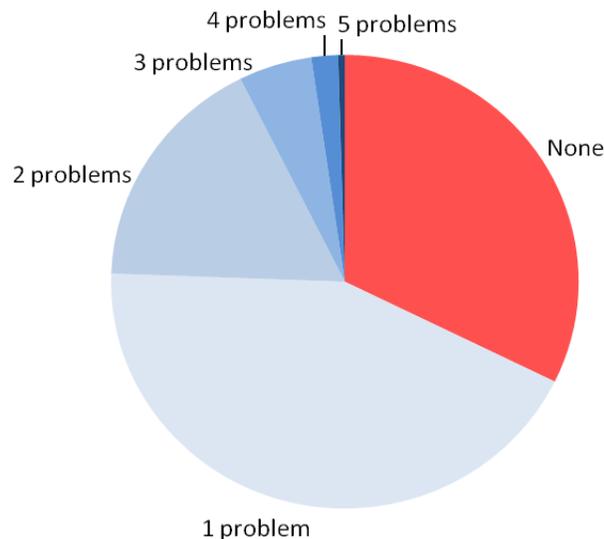
to the age of the some of the respondents, and the fact that this is a higher prevalence of some of the conditions, notably diabetes, amongst those of South Asian ethnicity. There is however some evidence to suggest that chewing areca (betel) nut (e.g. in paan) may be linked with metabolic syndrome and diabetes (for more information refer to the literature review in **Appendix D**).

**Figure 4: Reported health problems of respondents (from pre-determined list) within the survey (n=217)**



Note cancer has been excluded due to small numbers.

**Figure 5: Number of health problems reported by the respondents (n=217)**



### 4.3 Tobacco & paan use

#### *Prevalence*

As figure 6 shows, the respondents reported currently using a range of tobacco and/or paan products. Only 25 (12%) reported not currently using any of the products in the table. The high prevalence in use of these products amongst the survey sample is likely to reflect the fact that many of the Community Health Champions actively selected members of their community who they knew chewed paan/used tobacco in some form when conducting the survey interviews (as such, these figures are not likely to reflect the true population prevalence).

Individuals were asked to select as many options as appropriate from a predetermined list. As such, these data include individuals who chew several different types of product, some using chewing products in combination with using inhaled tobacco products, such as cigarettes. Chewing paan with betel nut, either with tobacco (39% respondents) or without tobacco (42% respondents) were the most popular products consumed by the women who took part in the survey.

**Figure 6: Breakdown of the types of tobacco/paan products reported to be currently used by respondents (n=217) (females)**

Type of product used	Number of respondents (proportion)
Cigarettes	5 (2%)
Roll-ups	< 5
Cigars	< 5
Waterpipe	< 5
Otherpipe	< 5
Paan with betel nut/ supari*	91 (42%)
Paan without betel nut*	18 (8%)
Paan with tobacco	41 (19%)
Paan without tobacco	10 (5%)
Paan with betel nut and tobacco	85 (39%)
Paan leaf only	11 (5%)
Betel nut only	18 (8%)
Chewing tobacco only	18 (8%)
Chuna only**	50 (23%)
None of the above products	25 (12%)

Note where the number of respondents was fewer than 5 the number and proportion has not been disclosed to protect the confidentiality of the respondent

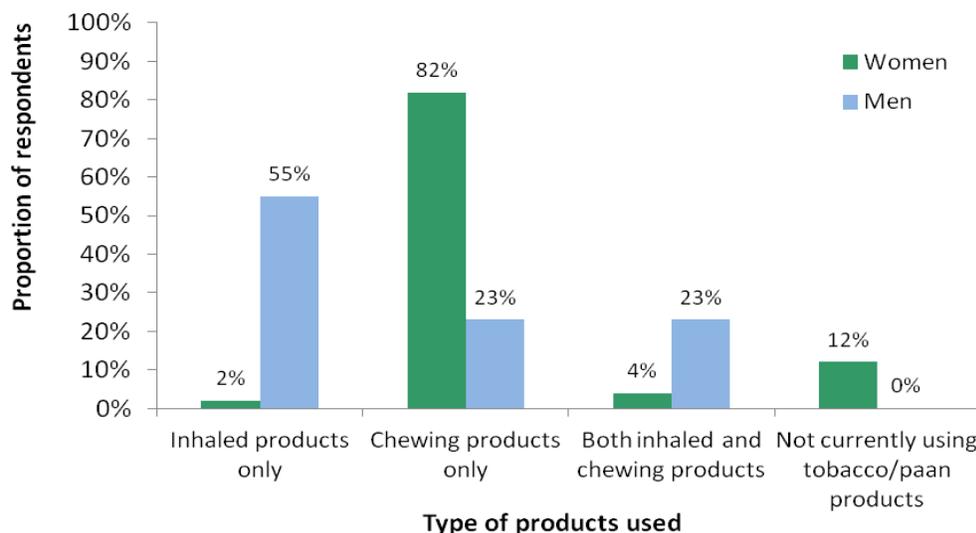
\* Conversation with the Community Health Champions at the post-insight workshop indicated that these two options would be assumed by respondents to mean paan without tobacco

\*\* Discussion also indicated that it is highly unlikely that women would use chuna on its own, and certainly not 50 women (but the precise number is not possible to quantify) – it was felt to be likely that respondents interpreted this as having chuna with chewing tobacco, betel nut or paan leaf or a combination of all three.

It is not possible to truly compare descriptive studies such as this with other published studies due to the sampling methods chosen and choice of question wording around the products used by respondents. By way of some comparison, Croucher et al. (2002) in their cross-sectional study of tobacco dependence in a UK Bangladeshi female population found a prevalence of chewing paan quid (betel leaf, lime and areca nut) with tobacco of 48.5% and a prevalence of 73.8% for chewing paan quid as a whole (with or without tobacco).<sup>xliv</sup>

Amongst the female respondents, the use of inhaled tobacco products (classified here as cigarettes, roll-ups, cigars and waterpipes) was proportionately low compared to their use of chewing tobacco and other paan products. The women’s response to this question was compared to the responses made by the 31 men who were also interviewed (refer to figure 7). All of the 31 men interviewed used tobacco/paan products in some form. As figure 7 shows, 55% of the men use inhaled tobacco products only (no paan/chewing tobacco products) and 23% reported using both inhaled and chewing products. Only 23% use paan/chewing tobacco products only. In contrast, the majority of the women (82%) reported only using paan/chewing tobacco products. In fact only 2% reported using inhaled tobacco products on their own and 4% use inhaled products in combination with paan products. These findings reinforce the gender patterns indicated from other studies (for example the 2004 Health Survey for England)<sup>xlv</sup>, and shared by the Champions and other members of the community at the initial insight workshop.

**Figure 7: Comparison between the use of inhaled tobacco products and chewing tobacco/ paan products by males and females in this study (n= 31 males; n=217 females)**



Evidence indicates that both tobacco and betel/areca nut are carcinogens (cancer-causing chemicals). Tobacco also contains nicotine, which is an addictive substance and betel nut is known to be a mildly euphoric stimulant.<sup>xlvi</sup> The table in figure 8 below highlights the proportion of female respondents who currently consume products containing either tobacco or betel nut. The data shows that 115 (53%) of the respondents use tobacco in some form; whereas 161 respondents use betel nut in some form, either chewing the betel nut on its own or as part of a paan (86% of all paan users). Only 7 reported using paan products which contained neither betel nut or tobacco.

**Figure 8: Number and proportion of female respondents who use either tobacco/ betel products**

Type of product	Method of using product	Number of People	Proportion of users
<b>Product containing tobacco</b> (n= 115 respondents use these, 53% of all respondents)	Uses tobacco in inhaled products only	7	6%
	Uses tobacco in paan/ as chewing tobacco only	101	88%
	Uses tobacco as both inhaled and chewed tobacco products	7	6%
<b>Product containing betel nut</b> (n=187 respondents who use paan products)	Uses paan containing betel nut/ chews betel nut on its own	161	86%

The survey attempted to find out about the paan/tobacco products used by other, adult members of each household, in addition to the respondents' personal use. (Respondents were asked to tick the products outlined in figure 6 for each adult member of their household). Unfortunately the question was poorly completed and, as such, the results are not shown here. Consequently it is not possible to build a picture of the use of the products amongst the wider community from this survey. (The survey did not ask a direct question as to how many adults within the respondent's household use paan/ tobacco products, something which should be included if this questionnaire was to be used again/ in another area.)

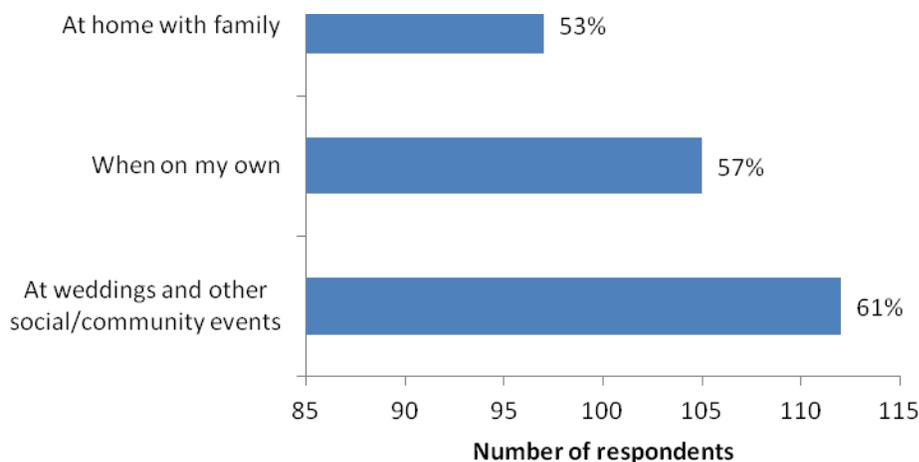
Although we do not know from the survey the number of users in each household, we do know the approximate number of people living across the respondent's households – approximately 904 adults and children. Many of the respondents (55%) live in large households of 5 or more residents and 73% live in households with children under 18 years of age. This indicates the number of potential other users/ those exposed to use of these products.

### Frequency of consumption

Those who reported using paan/chewing tobacco in some form currently (n=187) were asked on what occasions they usually chew. (Respondents could choose multiple responses to this question). As figure 9 shows, 53% respondents reported consuming these products 'at home with the family.' 61% reported chewing paan/tobacco at weddings and/or other social/community events. This reflects how culturally embedded this habit is, with paan products regularly offered after meals during celebrations such as marriages. As figure 10 below indicates, 8% of the respondents reported *only* using these products at such special occasions (and not otherwise).

57% reported using paan when on their own. These 105 respondents may represent a different group from those who merely use during social occasions or with the family, their solitary use being potentially indicative of an addiction or 'habit'.

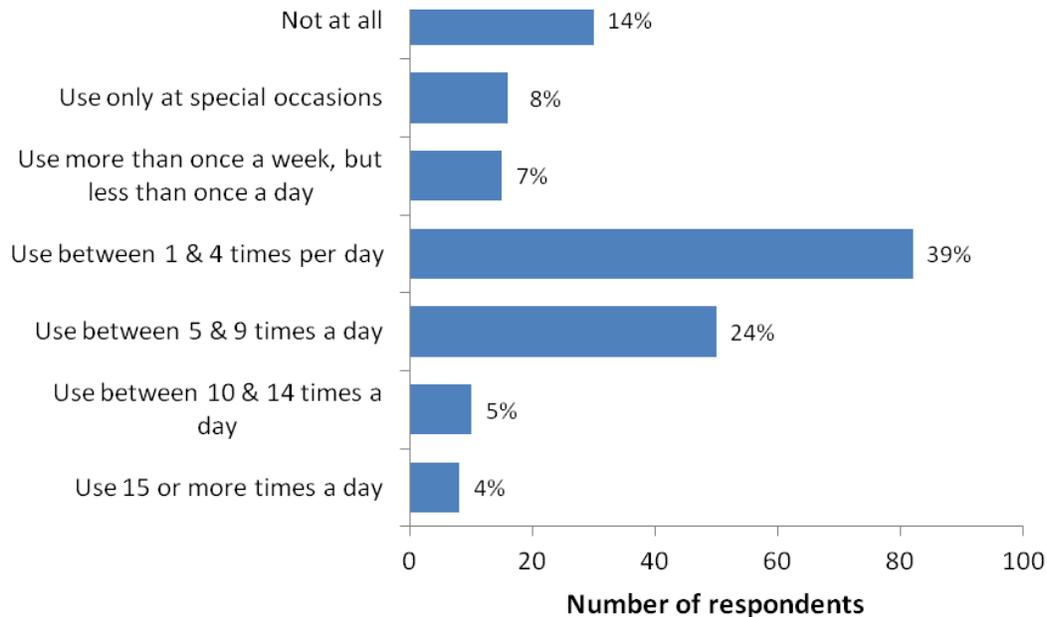
**Figure 9: Graph showing where and on what occasions respondents usually chew paan/ tobacco (n=184)**



Note there were 3 missing responses to this question

Figure 10 indicates the reported frequency of paan/chewing tobacco use amongst the respondents. The consumption of these products was relatively high amongst many of the women participating in the survey: 165 (78%) reported using paan/chewing tobacco at least once a week and 150 (71%) use these products at least once a day. Of the daily users, many use these products on 5 or more occasions each day. The Community Health Champions conducting the surveys reflected at the post-insight workshop that some respondents found it difficult to accurately estimate their usage, since they do not usually think about how many times they consume paan products each day. They also pointed out that, unlike smoking a cigarette, some individuals may retain a paan in their mouth for a number of hours at a time.

**Figure 10: Reported frequency of paan chewing/tobacco chewing (based on an average day) (n=211)**



Note missing 6 responses to this question.

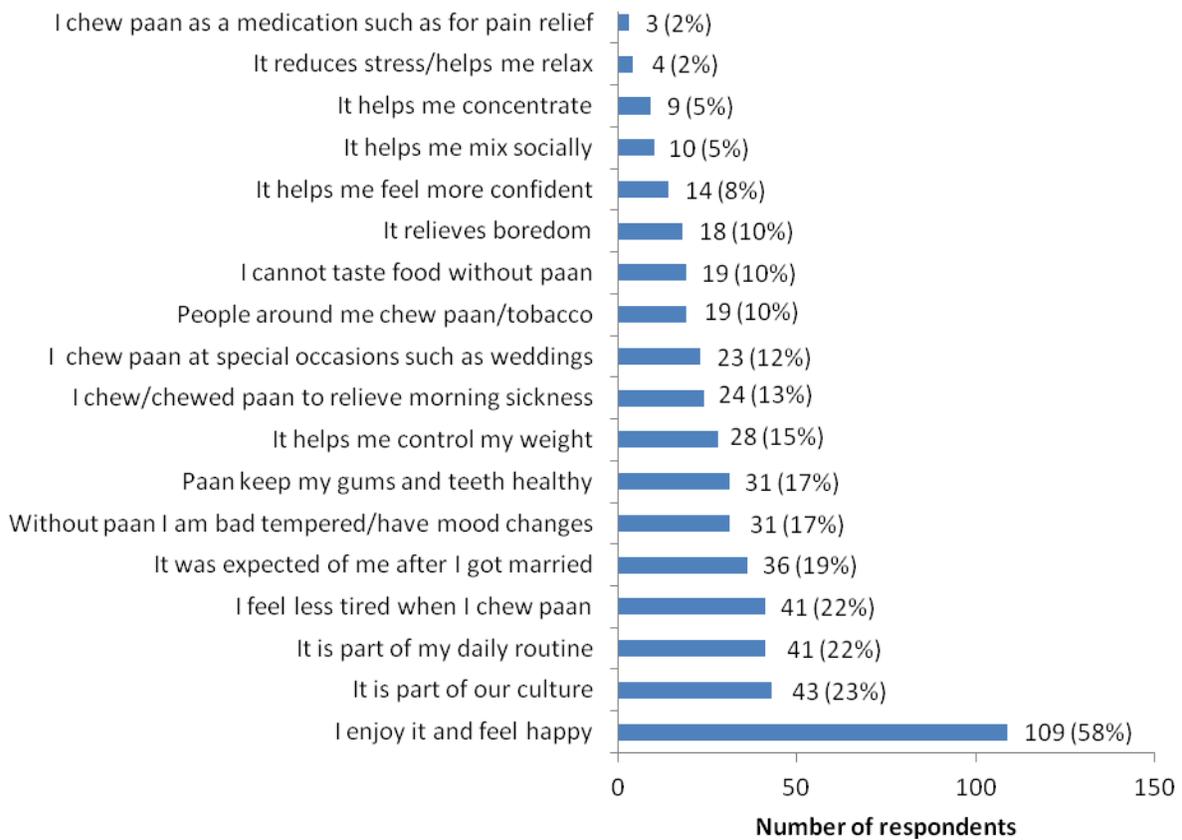
### ***Reasons for chewing paan/tobacco***

Figure 11 shows the different reasons respondents claimed for chewing paan/tobacco (respondents selected options from a pre-prepared list). It is important to understand people's motivations for using these products, to determine interventions which might best support those wanting to quit. The most popular response was 'I enjoy it and feel happy' (109 responses). Other common responses were 'it is part of our culture' (43 responses), 'it is part of my daily routine' (41 responses), 'I feel less tired when I chew paan' (41 responses) and 'it was expected of me after I got married' (36 responses). Some respondents chew paan/tobacco products because they believe it confers a health benefit, such as 'paan keeps my gums and teeth healthy' (31 respondents) or 'I chew/chewed paan to relieve morning sickness' (24 respondents).<sup>h</sup>

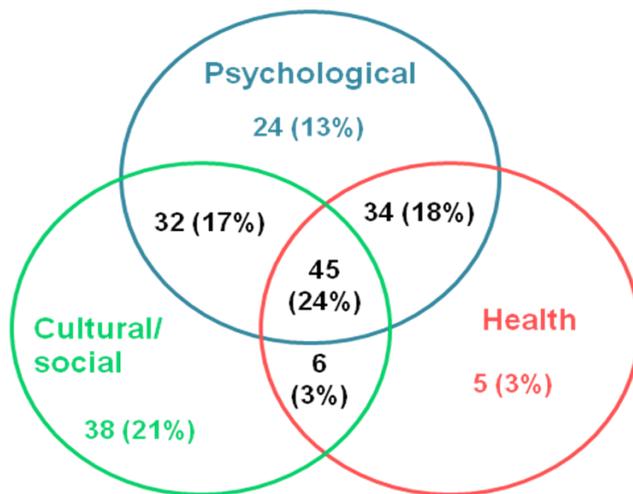
In figure 12 the different motivations given in figure 11 have been grouped into three categories: cultural and social motivations; psychological motivations; and health reasons. These categories have used to (albeit crudely) understand the number of individuals whose motivations indicate signs of potential addiction and psychological dependency (who may benefit from psycho-social interventions); those who are taking the products for health reasons (for whom messages around the health impacts of paan/chewing tobacco may carry some weight); and those who use the products more for social and cultural reasons, which on their own may be the more challenging to counter-effect by any behaviour change solution.

<sup>h</sup> Note, in this question, only 12% responded that they chewed paan as special occasions such as weddings or festivals, whereas, as shown in figure 9, in response to a different question, 61% reported doing so.

**Figure 11: Reasons given for chewing paan/tobacco (n=187)**



**Figure 12: Reasons given for chewing paan/tobacco grouped into health, psychological and cultural/social motivations (n=187) (number and proportion of respondents)**



A key to the different categories is given as a footnote below.<sup>i</sup>

<sup>i</sup> **Psychological reasons** - It helps me feel more confident; it helps me concentrate; it relieves boredom; I enjoy it and feel happy; If I do not chew paan I am bad tempered and have mood changes; I feel less tired when I chew paan

### ***Cost and availability of products***

Respondents were asked to estimate their household's weekly expenditure on paan. The women's responses taken as a whole reported an average weekly household spend of £5.30 on paan products, which equates to around £1.80/week for each adult household member (if it is assumed that all adults within the household use paan products, which is unlikely). Overall buying tobacco products in this way appears to be cheaper than buying cigarettes (something which has also been suggested in a recent study by Croucher et al<sup>xlvii</sup>). It should be noted, however, that as the women attending the initial insight-gathering workshop explained, many families buy paan products, such as tobacco, in bulk, in quantities which may last several months (although the paan leaf itself needs to be bought fresh and therefore more regularly), and therefore it may be difficult for an individual to accurately calculate an average weekly spend.

Respondents were also asked who in general buys paan products for their and their household's use and where the products are generally purchased from. Most commonly the women responded that they themselves buy the products (149 responses). The next highest response was that their spouse buys the products. 17 respondents mentioned that their children buy tobacco/paan products for them and their household. This question was asked in terms of the familial relationship the purchaser had to the respondent. The Community Health Champions reflected that in this instance 'their children' was highly unlikely to have meant children under 18. During the initial insight-gathering workshop, when asked if children (under 18) in the household ever bought paan products the initial answer was always 'no'. On further probing some women did confess that on occasion children (under 18) might be sent to the shop to buy paan products for the household (although there was no further probing around which products they were buying it is only the tobacco which would be illegal to sell to those under 18 years of age).

In terms of location, the majority (146) of respondents reported buying paan/chewing tobacco products from an Asian grocery shop, and 113 indicated that they bought the products 'close to home' as opposed to in another part of London (only 6 respondents). A few (9 respondents) also reported buying the products on line.

### **4.4 Motivation to give up**

Having captured data on the level of usage within the population, questions were asked about users' willingness to give up using these products and what could be provided within the community to support them to quit.

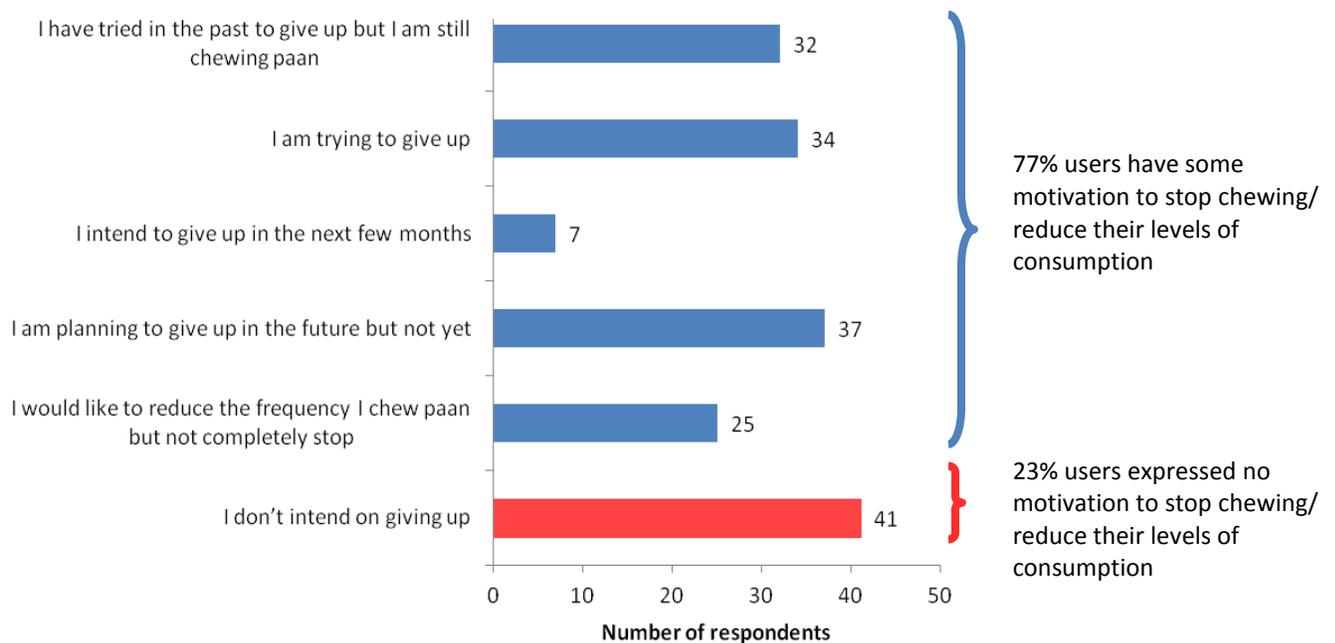
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**Health reasons** - I cannot taste food without paan; I chew paan as a medication, such as for pain relief e.g. toothache; I chew/chewed paan to relieve morning sickness; Paan keeps my gums and teeth healthy; It reduces stress/helps me to relax; It helps me control my weight

**Cultural or social reasons** – It is part of our culture; it was expected of me after I got married; I chew paan at special occasions, such as weddings and festivals; people around me chew paan/tobacco; it helps me mix socially; it is part of my daily routine.

As figure 13 shows, 41 (23%) of the respondents told the interviewer that they did not intend to give up chewing paan/tobacco products. The remainder who responded to this question (135) were all currently considering/had in the past considered quitting or reducing their consumption: 44 had tried stopping in the past but unsuccessfully; 56 were trying to give up currently; 11 said they were intending to give up in the next few months and a further 54 said they were planning to give up some time in the future but not at the moment. 34 respondents did not want to quit completely but would consider reducing their intake. Overall this represents a large proportion (77%) who are either unsuccessful previous quitters or who are intending to stop/reduce their consumption either now or at some point in the future. These represent the key audience for any intervention which is undertaken/ commissioned to support those motivated to quit.

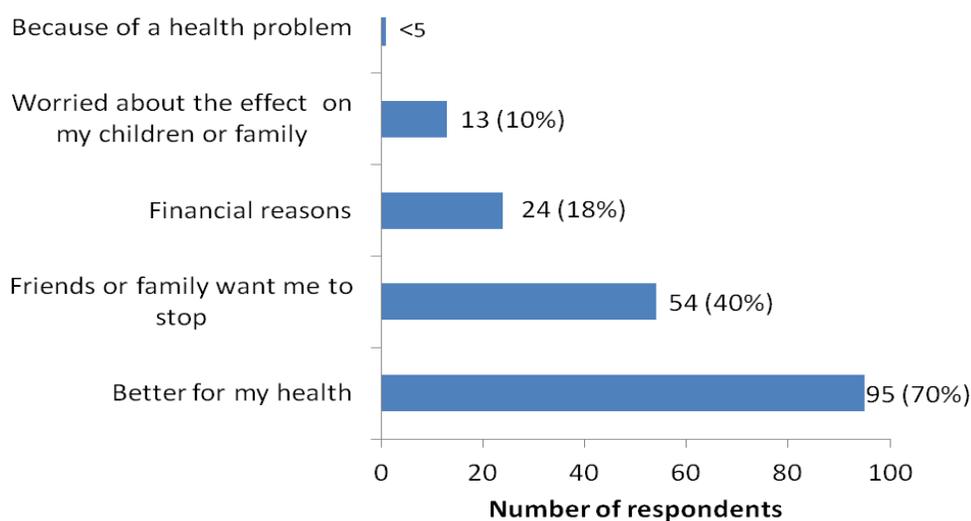
**Figure 13: The intentions of respondents to give up chewing paan/tobacco (n=176)**



Note missing data from 11 respondents.

These respondents (excluding those who do not intend to give up) were asked the reason they had for wanting to give up (figure 14). Many of them said it was for better health (95). The next most common response was that their friends and family wanted them to stop (54 responses). Only 24 mentioned it was for financial reasons, which indicates that cost of products may not be a prohibiting factor. 13 reflected that it was because they were worried about the impact on their children and family. (Note respondents could choose multiple responses for this question; but the response options were pre-determined in the questionnaire (not free text)).

**Figure 14: Reasons given by respondents for wanting to give up/ reduce chewing paan/ tobacco (n=135)**



#### 4.5 Support to give up

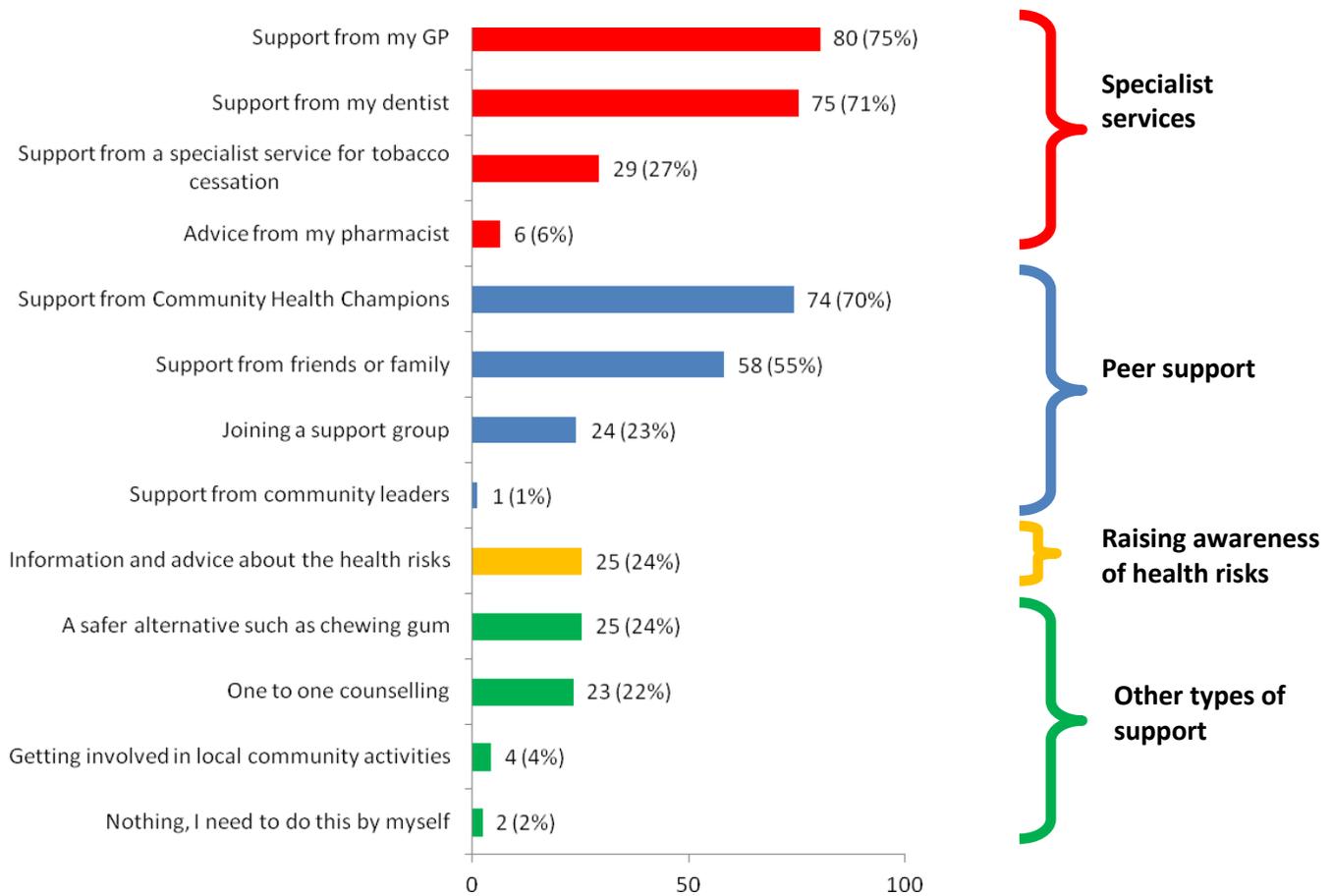
The 135 respondents who indicated some incentive to give up or reduce their consumption were also asked what services they felt might support them to give up. As can be seen in figure 15, there was a wide range of responses to this question, although unfortunately only 106 out of the 135 respondents who showed willingness to give up responded to this question. Respondents could tick as many options as they thought relevant. The most popular responses were support from GPs (75%) and dentists (71%), closely followed by support from Community Health Champions (70%).

29 (27%) respondents advocated support from a specialist service for tobacco cessation, which may be lower than expected. This is likely to reflect the fact that historically these services have centred on smoking cessation rather than a wider concept of ‘tobacco cessation’, although some work has taken place in this area, particularly in terms of prevention work with young people and in outreach health awareness sessions with local communities. As shown above (figure 6), very few of the women responding to the survey use inhaled tobacco products, such as cigarettes, and therefore may be unlikely in general to regard a specialist tobacco cessation service as a place to go to for support. Follow up conversations with the Community Health Champions (at the post-insight workshop) suggested, however, that if a service existed which would also support users of paan/chewing tobacco then members of the community would be likely to attend.

In terms of potential interventions, 25 (24%) cited that information about the health risks of chewing would help them to give up/reduce their habit and the same number felt that having a safer alternative such as chewing gum might be beneficial. Sugar-free gum was also a suggestion which was discussed by the Community Health Champions at the post-insight workshop. A similar number also cited one-to-one counselling as an option.

In figure 15 the responses are colour coded by type of support. Overall 89 (84%) of the respondents felt that they would benefit from at least one of the peer support options given. The same number felt that specialist services (including GPs, dentists, tobacco cessation services and/or pharmacists) could help them. 76 (72%) respondents cited both of these options amongst their selected solutions, with only 4 (4%) selecting neither.

**Figure 15: Services/initiatives which users felt could support them to give up/reduce their chewing paan/tobacco use (n=106)**



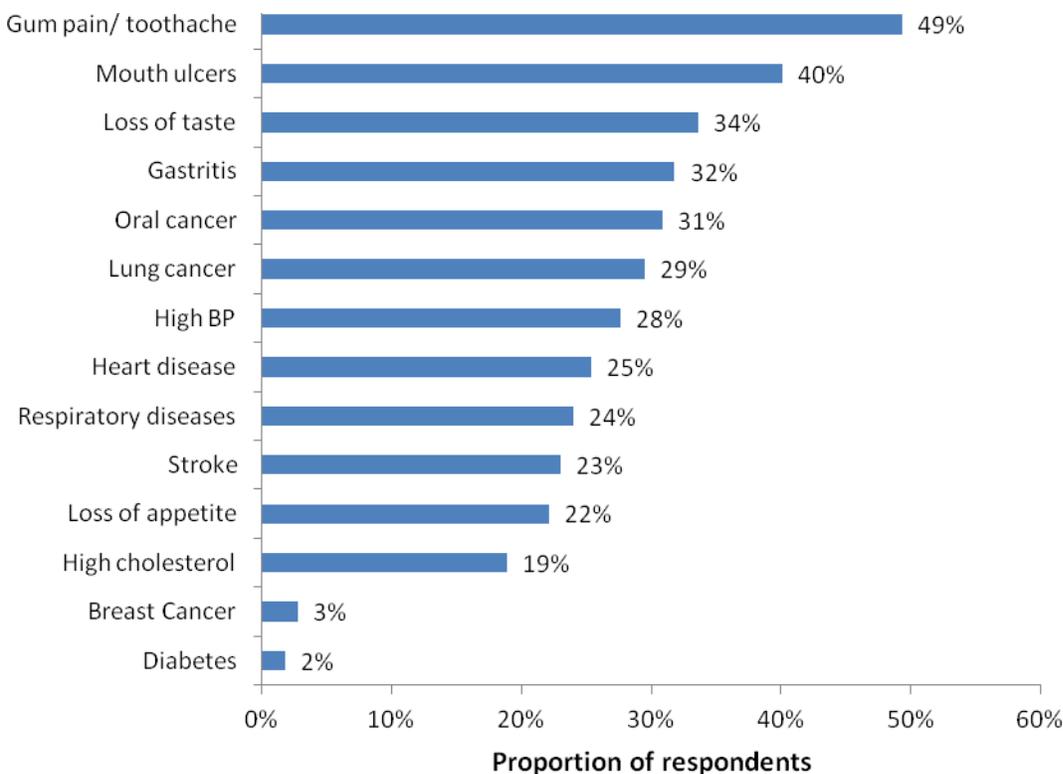
Note missing data from 29 respondents.

74 (70%) of the respondents who wanted to stop using chewing tobacco/paan mentioned that support from Community Health Champions would help them to give up. At the end of the survey respondents were asked whether they knew who their Community Champion was. As mentioned earlier, 88 respondents were on a Community Champion caseload. Of the remaining respondents, 72% knew who their Community Champion was, which suggests that the Community Health Champions have good visibility within the community.

#### 4.6 Awareness of the health risks

Respondents were asked about the health risks they thought were caused by chewing paan/tobacco. The health conditions listed in the questionnaire incorporated both health conditions which evidence has shown are linked to chewing paan/tobacco (such as cardiovascular disease and oral disease, including oral cancer), as well as a variety of conditions and symptoms that came out of the insight-gathering workshop (conditions people whom the participants knew who chewed had, and that they thought were linked to their chewing habits). These latter conditions were included to find out how common these beliefs were seen to be amongst the wider community.

**Figure 16: Responses to the question: *According to your knowledge, which of the following health problems are caused by chewing paan/tobacco (n=217)***



Respondents were asked to tick as many conditions as they thought relevant. The most popular response was gum pain/toothache (107 respondents), followed by mouth ulcers (87 respondents), although these were chosen by fewer than 50% of respondents. Only (67 – 31%) were aware that oral cancer was linked to chewing paan/tobacco. Loss of taste (34% respondents), gastritis (32%) and loss of appetite (22% respondents) were symptoms that had been described by attendees at the insight-gathering workshop.

NICE cites mouth and oropharyngeal cancer, dental disease, cardiovascular disease and problems in pregnancy (still birth, low birth weight, pre-term birth, placental pathology and foetal anaemia) as health conditions related to chewing smokeless tobacco. Additionally the

literature review conducted for this project identified an association between chewing betel nut and metabolic syndrome (refer to **Appendix D**). Harm in pregnancy was not one of the options included in this insight questionnaire but it would be useful to include this should similar surveys be carried out in the future.

#### 4.7 Subgroup analyses

In order to understand some of the characteristics of the paan/tobacco chewing population in more detail a few sub-group analyses were undertaken, comparing for example those who were willing to give up chewing tobacco and those who said that they were not, and comparing people who chew paan very frequently and those who chew less frequently/not at all. The relationship between characteristics of the population sub-groups and a number of different variables were tested for significance using a statistical test, Chi-square.<sup>j</sup> The results of these tests for association are displayed in figure 17 below.

The number of respondents within the different subgroups was relatively small and possibly for this reason there was no statistically significant association found between many of the variables (with statistical significance set at the 95% level).<sup>k</sup> The results, however, indicated the following possible associations of interest:

- Age and willingness to give up – the data indicated that paan/chewing tobacco users of an older age group (aged 55 and over) were less likely to want to quit. This was an age group the Community Champions felt at the insight workshops were ‘harder to reach’ in terms of interventions to support them to quit, since they were on the whole less likely to leave their houses than the ‘younger generation’. Although data was not collected on how long users had used paan/chewing tobacco, it is likely that the older users had also been using paan/chewing tobacco for a long period of time than the younger respondents.
- Above average GP attendance and frequency of paan/chewing tobacco use – the data indicated that those who use paan at least once a day are likely to have attended the GP more times in the last year than the national average. This could indicate a greater number of health concerns amongst frequent chewers relating to their tobacco habit.
- Dental attendance in previous 24 months and frequency of paan/chewing tobacco use – the data indicated that those who chew paan at least once a day are less likely to have been to the dentist in the last two years (55%) compared to those who chew less frequently/not at all (70%). Due to the risk of chewing paan/tobacco to oral health it is important that users attend the dentist regularly for check-ups, for examination not only their teeth but the soft tissues in their mouth, and signs of oral cancer. It may be that those who chew regularly

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<sup>j</sup> The Chi-square is a statistical test used to determine whether an association (or relationship) between categorical variables in a sample is likely to reflect a real association between these variables in the population as a whole

<sup>k</sup> A P-value of 0.05 or 95% confidence level is a common level to use to provide evidence in order to reject the null hypothesis – it can be interpreted as there being only a 5% chance that the null hypothesis (in this instance no association between the variables) is true in the population, given the sample findings.

are embarrassed by the condition of their teeth, caused by using paan, and this leads to lower dental attendance (this was a potential barrier to dental attendance shared at the insight-gathering workshop with Community Champions).

- Frequency of chewing paan/tobacco and respondents having problems with digestion and diabetes –those who chewed paan/tobacco at least once a day were more likely to report having digestive issues (statistically significant) and were also more likely to report having diabetes (not significant at the 95% level but borderline significant) compared to those who use these products less frequently/not at all. These may indicate health issues related to having chewed paan/tobacco but there could also be confounding factors – for instance, in the case of diabetes, diabetes is known to be highly prevalent amongst South Asians.

**Figure 17: Results of tests of association between different variables related to chewing tobacco/paan amongst sub-groups of respondents**

Association being tested	Results	Interpreting the results
Association between users chewing tobacco when on their own and willingness to give up chewing	P value for Chi-squared test = 0.93 (no statistical significance)	There was no association shown between users willingness to give up chewing tobacco and whether they chew tobacco when on their own
Association between number of years of education and willingness to give up chewing	P value for Chi-squared test = 0.56 (no statistical significance)	There was no association shown between the number of years of education users had completed and their willingness to give up
For those born outside the UK, association between their willingness to give up chewing and whether they were born in an urban or rural area	P value for Chi-squared test = 0.05 (borderline statistical significance)	There was some association between the willingness of users not born in the UK to give up chewing tobacco and whether they were born in an urban or rural area, with users born in an urban area more likely to want to give up chewing. This association had borderline statistical significance.
Association between age of user (respondents) and their willingness to give up chewing paan/tobacco	P value for Chi-squared test = 0.05 (borderline statistical significance)	There was some association between the age of user and their willingness to give up chewing paan/tobacco, with older users (aged 55+) being more less likely to want to give up . This association has borderline statistical significance.
Association between motivation to give up using paan/chewing tobacco and frequency of use	P value for Chi-squared test = 0.68 (no statistical significance)	There was no association found between the frequency of users' paan/ chewing tobacco consumption and their willingness to give up. (Frequency compared users using at least 1x a day and those using less frequently)
Association between frequency of paan use and users' willingness to give up paan	P value for Chi-squared test = 0.61 (no statistical significance)	There was no association found between the frequency of users' paan/ chewing tobacco consumption and their willingness to give up. (Frequency compared users using at least 1x a day and those using less frequently)
Association between whether respondent had been to the dentist within the last 24 months and their frequency of paan use	P value for Chi-squared test = 0.04 (statistical significance)	There was an association between the likelihood of users attending the dentist in the previous 24 months and their paan use, with frequent tobacco users less likely to have been to the dentist in the last 24

Association being tested	Results	Interpreting the results
		<p>months, compared to those using chewing tobacco less frequently than once a day or not at all. (Frequency of paan use for this test compared those who used paan at least 1x a day and those who used less frequently/not at all). The association had statistical significance.</p>
<p>Association between the number of GP visits made by respondents and the frequency of their paan use</p>	<p>P value for Chi-squared test = 0.04 (statistical significance)</p>	<p>There was association between the number of GP visits made by respondents and their paan use, with those who use paan being more likely to have been to a GP a higher number of times in the last year than the national average. (Frequency of paan use for this test compared those who used paan at least 1x a day and those who used less frequently/not at all; and number of GP visits compared those with lower and higher than the national average for the number of annual visits). The association had statistical significance.</p>
<p>Association between current health problems and frequency of paan use – tested for each health problem recorded as part of the questionnaire (refer to figure 4)</p>	<p>P value for Chi-squared test:  Problems with digestion = 0.001 (statistical significance)  Diabetes = 0.06 (borderline significance)</p>	<p>There was some association between the frequency of users paan use (frequency of paan use for this test compared those who used paan at least 1x a day and those who used less frequently/not at all) and likelihood of having problems with digestion and diabetes.  There was no association shown with other health conditions but given the size of the sample the number of respondents with some of the health problems was very small.</p>

## 5. Discussion and Recommendations

### 5.1 Overall summary of key findings

- The Community Health Champions conducted 263 surveys with the local Bangladeshi community around their tobacco/pan chewing habits. Following data cleaning, data from 217 questionnaires conducted with women and 31 with men were included in the final analysis. This represents a good sample size, particularly given the fact that this habit has been found in other studies to be underreported.<sup>1</sup>
- Out of 217 women responding to the survey, 86% reported chewing tobacco/pan products (currently); this increases to 88% when inhaled tobacco products are also included. This should not, however, be taken as a population prevalence, since the Community Health Champions undertaking the survey actively targeted women who they knew chewed pan/tobacco, which is likely to have inflated the numbers.
- 8% of users reported only using pan/chewing tobacco at weddings and other social/community events, as opposed to daily or even weekly.
- 165 (78%) of the survey sample use pan/chewing tobacco at least once a week and 150 (71%) reported using these products at least once a day. The Community Health Champions reflected, however, that some respondents had found it difficult to quantify exactly how often/ how many times they use pan each day/ week. They also noted that some individuals may retain a pan in their mouths for long periods at a time.
- 57% of pan/chewing tobacco users reported using the products when on their own, which could indicate a higher level of addiction, in comparison to those who use the products with their family or at special occasions.
- 161 (86%) users of pan products reportedly use products containing betel nut and 101 use products containing tobacco/they chew tobacco on its own. This is important information due to the carcinogenic effects of these products. In addition to the carcinogens, tobacco contains nicotine and betel nut is known to be a mildly euphoric stimulant, and therefore users can find it difficult to withdraw from using these products. In fact, NICE showed that blood levels of nicotine within chewing tobacco users are as high, if not higher, than cigarette users.
- Although only 31 men were questioned as part of the insight project, their use of tobacco and pan products was different to the female respondents: they were more likely to use inhaled products instead of/ as well as, pan products; by contrast women were shown to be more likely to use pan/chewing tobacco products on their own (without inhaled products). This is significant in that historically 'stop smoking services' have focussed on

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<sup>1</sup>The Community Health Champions also reported that they had faced some barriers, with some members of the community being unwilling to participate in this study.

cigarette smoking and since many women who use chewing tobacco do not also use cigarettes, they may be less likely to seek help within the current service provision.

- Weekly average household spend on paan/chewing tobacco products was reported to be around £5.30 (which loosely equates to approximately £1.80 per adult). It should be noted that this is difficult to calculate precisely – participants in the initial insight workshop highlighted that often these products are purchased in bulk, with the intention that they last several months at a time. Overall costs appears to be lower than purchasing cigarettes and other inhaled products on the market and financial motivations came out comparatively low in the reasons respondents gave for wanting to give up.
- Paan and other chewing tobacco products are freely available locally to buy, although some respondents reported travelling further afield within London to make some purchases.
- 68% of respondents reported having at least one health problem (either problems with teeth or digestion, diabetes, mental health issues, heart disease, respiratory illness or cancer), but it is unknown whether any (and which) health problems may directly be as a result of their paan/tobacco use. Sub-group analyses conducted on those who use paan/chewing tobacco at least once a day compared to those using the products less frequently found some association between frequency of use of the products and likelihood of reporting problems with digestion and diabetes.
- Awareness of the health impacts of chewing paan/tobacco was however low: fewer than half of respondents correctly recognised some of the key health problems linked to the habit of chewing paan/tobacco (including, for example, dental disease, oral cancer and cardiovascular disease) from a pre-determined list.
- The majority of respondents were currently registered with a GP and a dentist: 97% had been to their GP in the last year, and 58% had been to the dentist in the last two years, which indicates practice footfall which may provide opportunity for brief interventions.
- The questionnaire did not ask anything about children’s use of paan/chewing tobacco (there are concerns within the literature that the use of these products amongst young people may be growing).<sup>xlviii</sup> 17 respondents mentioned that ‘their children’ sometimes bought paan/chewing tobacco products on behalf of the household, although the Community Health Champions felt this was unlikely to be children under 18. (That being said, the insight-gathering workshop had drawn out from participants that on occasion children did buy some of the products, although it was not clear to which paan products they were referring). There are approximately 370 children living across the respondents’ households: with 61% respondents using paan/chewing tobacco at weddings and other social/community events and 53% at home with their family it is likely that many of these children are exposed to paan chewing.
- Other surveys have shown that individuals from lower socio-economic groups are more likely to use smokeless tobacco but this survey did not collect socio-economic information about the respondents. Whether individuals were born in a rural or urban area in

Bangladesh was also thought to influence their usage. Subgroup analysis for this survey found that there was some association between users being born in an urban area (as opposed to a rural area) in Bangladesh and their motivation to quit (borderline significance).

- 77% (135) of the respondents showed willingness to give up or reduce their habit, either now or in the future. Fewer than a quarter (23%) expressed no motivation to stop chewing/reduce their level of consumption. The three main services/groups which those motivated to give up felt would provide the best support for quitters were GPs, dentists and Community Health Champions. These support services are discussed in more detail in the next section.
- Sub group analyses comparing users of different ages found that there was an association between age and willingness to quit using these products, with those aged 55 and over less likely to want to quit.

## **5.2 Raising awareness of the health impacts of chewing paan/tobacco**

- This insight project has indicated that there is low awareness amongst users as to the health risks of paan/chewing tobacco products. For example, only 31% were aware that there was a risk of oral cancer. This is also something which has been found in other studies.<sup>xlix</sup> Discussion at the insight-gathering workshop indicated that chewing paan/tobacco is perceived as less dangerous than smoking cigarettes.
- 31 (17%) users reported using paan/chewing tobacco to keep their teeth and gums healthy and 24 (13%) reported using/having used it to relieve morning sickness, when in fact these products have been shown to be harmful both during pregnancy and for oral health.
- 77 (35%) respondents reported currently having problems with their teeth and 52 (24%) have problems with digestion. Although the link between these conditions and their paan/tobacco habit is unknown, both could be related in some cases. The subgroup analyses conducted on the data set showed a statistically significant relationship between frequency of chewing and likelihood of reporting problems with digestion (although it is not clear if this relationship is causal).
- Many (70%) cited health as a motivation for wanting to give up, the most popular reason quoted by respondents.
- 25 of those wanting to give up (24%) felt that information/awareness about the health risks of chewing tobacco would help them to give up. The majority of those who selected this, however, also selected other support solutions (such as peer or specialist support), implying that this was only intended as part of the solution. In fact, whilst raising awareness of the health impacts could be a solution on its own, it should also underpin all potential support offers to help individuals wanting to quit/reduce their habits.

**Recommendation 1:** Use the findings of the literature review around the health impacts of the different paan/chewing tobacco products to co-produce with the Community Health Champions a campaign to raise awareness of the health risks, amongst the local community. This might include the production of visual material for posters/information leaflets, organising workshops with advice from relevant local health professionals, and Community Health Champions speaking to local residents on an outreach basis. Due to varying levels of English within the local Bangladeshi population, any written material would need to be translated. Poor literacy amongst some groups means that verbal communication may have the most impact, possibly in combination with pictures showing the health impacts. *Any messages being disseminated need to be evidence-based, and consistent with messages being given out by specialist tobacco cessation services and local health professionals.*

**Recommendation 2:** Look at the methods being used by other areas in the UK and abroad to raise awareness of these health impacts.

### 5.3 Using traditional stop smoking techniques for supporting paan/chewing tobacco quitters

- Because of the variety of paan and chewing tobacco products used by different individuals, some of it pre-prepared (for example in paan masala) and the fact that users find it difficult to calculate how often they use paan/tobacco products, combined with the fact that individuals themselves use different products at different times, some containing tobacco and some not, it is difficult to ascertain how much tobacco an individual is consuming on any normal day. Unless it can be approximated how much nicotine an individual is consuming on a regular basis, health professionals may be reluctant to offer nicotine replacement therapies on prescription basis/ make recommendations for individuals to purchase (since there is a risk that an individual could be given more nicotine than they may be used to receiving). NICE recommend that further research is undertaken to establish the similarities and differences between smokeless tobacco and smoked tobacco in terms of chemical content and the harm it can cause.
- Whilst some replacement therapies such as ‘e-cigarettes’ are designed more for cigarette users, others, such as chewing nicotine gum, might suit paan/tobacco chewers. Use of chewing gum as a safer alternative to chewing paan was selected by 25 (24%) respondents. Sugar-free gum was also suggested by Community Health Champions at the post-insight workshop as a potential method to help users quit/reduce their consumption.
- As indicated above, 161 (86%) users of paan products reportedly use products containing betel nut and 101 use products containing tobacco/they chew tobacco on its own. Amongst this sample, therefore, more individuals use paan products with betel nut, than paan products containing tobacco (although many will use products containing both). Therefore not all users are consuming nicotine products, although the products they use are still harmful to health, and therefore alternative support mechanisms may be needed to help

quitter reduce their habits. It is not clear from the literature whether users are fully aware of the exact content and quantities in the products they purchase e.g. whether it contains tobacco<sup>1</sup>.

- Aside from nicotine replacement therapies, Stop Smoking Services offer psycho-social interventions, which look in more detail at people's motivations for using cigarettes. As shown in figure 12, 135 (72%) users indicated some psychological motivation for using paan/chewing tobacco: this is probably not surprising since, as mentioned earlier, tobacco (nicotine) is known to be addictive and betel nut is seen as a mood-enhancer.
- NICE in their guidance on smokeless tobacco cessation for South Asians (2012) highlighted the limited evidence of what works conclusively to support users of these products to quit or reduce their habit. There is possibly not a 'one-size-fits-all' solution (in terms of psychological/ replacement/ other therapies) and recommended solutions are likely to be best made using local insight as to what would work for local communities.

**Recommendation 3:** Contact stop smoking services in other parts of the country where there is a high South Asian population/ there is known to be work going on in this area, to find out what support is provided for users of paan/chewing tobacco who want to quit/reduce their habit and any local evidence of effectiveness.

## 5.4 Developing potential support services

### *Peer Support*

- 89 (84%) respondents felt that a peer support option might help them to give up/reduce their consumption on its own/ in combination with other support.
- Support from Community Health Champions was one of the most popular responses for help in quitting (selected by 70% respondents) - of the 115 respondents who were not on the caseload of Community Health Champions, 83 (72%) reported knowing who their Champion was – which suggested relatively high visibility of the Champions within the community.
- At the workshops with the Community Health Champions, it was disclosed that several of the Community Health Champions have stopped chewing/reduced their habit and also know others within the community who have done similarly. Where motivations/solutions for this were shared, they included: stopping following advice from a GP about the health impacts of the products being used, including cancer; having something alternative to chew like ginger; following encouragement from a religious leader. Those who have stopped reported benefits, such as that they can now taste food again and talk more freely (previously they found it harder/were more embarrassed to open their mouths).

- Community Health Champions commented that the older generations within the community tend to leave their homes less often and may be unlikely to visit a specialist support service to discuss their paan chewing habit. Since Community Health Champions regularly visit the families/households on their caseload, they would be well placed, with the right training, to offer support to individuals/signposting, particularly the hardest to reach.
- Any peer support option would need to fit in with and complement support provided by specialist services and other health professionals in this area, with consistent messaging. It would need to be clear what expectations were within the scope of the peer support role and where/who they could turn to for specialist support.

**Recommendation 4:** Using published evidence as a guide, develop a peer support option for supporting those motivated to quit/reduce their habit within the community in conjunction with the Community Health Champions and Mosaic Community Trust. Work with the Community Health Champions and Mosaic Community Trust to develop evaluation methods to assess the impact of any peer support option(s) which is developed.

**Recommendation 5:** Mosaic Community Trust and Public Health to work with the local tobacco cessation service to develop a training package for local Community Health Champions and members of Mosaic Community Trust to enable them to raise awareness around the health risks of paan/chewing tobacco and deliver brief interventions.

**Recommendation 6:** With the help of the Church Street Community Health Champions and Mosaic Community Trust do a further small piece of work to understand from members of the community who have stopped chewing paan/tobacco how they succeeded and what the benefits of quitting are; and from those who have previously quit but are still chewing, what they think would have helped them to stay quit. Use this piece of work to identify potential role models within the local community who could be involved in peer support work/ health awareness campaigns.

**Recommendation 7:** Work with Community Health Champions and Mosaic Community Trust to explore how local religious leaders could be involved in spreading messages locally around the health risks of chewing paan/tobacco.

### ***Health Professionals***

- Support from GPs (75% respondents) and Dentists (71%) were the most popular suggestions for help in quitting/reducing tobacco chewing/paan habits. Pharmacists came quite low down the list with only 6% of respondents choosing them as an option (which is interesting, since many pharmacies have staff trained in smoking cessation support).
- 99.5% of the questionnaire respondents as a whole were registered with a GP and 83% with a dentist.

- 147 (98%) of those who chew paan more than once a day have been to the GP in the last year and 81 (55%) have been to the dentist in the last 2 years – this indicates footfall in GPs and dental practices, with opportunities for conversations around paan chewing habits and offer of support/signposting.
- The sub-group analyses indicated that users with more frequent consumption of paan/chewing tobacco were less likely to have been to the dentist in the previous 2 years. Regular attendance at the dentist is important not only for examination of the teeth but also the soft tissues in the mouth, to check for signs, for example, of oral cancer. It is important that this is raised as part of any work to raise awareness of the health impacts of chewing tobacco.
- There are three NHS dental practices in close proximity to Church Street: one on Church Street itself, and two on Edgware Road; four GP practices close to Church Street and three pharmacists on Church Street itself.

**Recommendation 8:** Conduct semi-structured interviews with dental practitioners and GPs with practices in and around Church Street to explore their knowledge about the paan chewing habits of patients on their caseload; whether they collect any data on this; ideas for supporting quitters within the community; and the level of training in offering brief interventions around stop smoking undertaken by members of their practice.

**Recommendation 9:** Find out from local pharmacists how often they are asked questions about support for stopping using paan/chewing tobacco by members of the community and whether they record any data on it.

**Recommendation 10:** Use findings from published evidence, including NICE guidance, the literature review and the semi-structured interviews, to develop an appropriate solution for engaging local health professionals in the delivery of brief interventions/referrals/signposting of users as part of a local pathway, and in the support of any peer support solution.

### ***Specialist tobacco cessation support service***

- 29 (27%) respondents felt that specialist tobacco cessation services had a role in supporting users to quit chewing paan/tobacco. This low number is likely to be a reflection of a number of factors, including that not all paan users use tobacco and few chew tobacco/paan as well as smoking; current specialist service provision is tailored around cigarette smoking; and users have a lower perceived risk of harm from chewing tobacco/paan, compared to cigarette smoking.
- Community Health Champions, however, felt that local users would visit specialist services if they provided support on quitting paan/chewing tobacco as well as cigarettes (shared at the post-insight workshop).
- The Local Authority public health team is currently looking at the service specification for the local stop smoking service. Historically this service has been commissioned to focus on

smoking cessation, as opposed to tobacco cessation more broadly, and has only collected and reported information on cigarette users who approached the service for support.

- The NICE guidance produced in 2012 on *Smokeless Tobacco Cessation: South Asians* contains advice for local services around chewing tobacco. NICE recommends that any services that are developed to support individuals to stop using smokeless tobacco, whether it be brief interventions carried out by trained, health professionals or specialist tobacco cessation service are:
  - co-produced with their target population
  - accessible and culturally appropriate for the South Asian community
  - ensure awareness of the risks and support available is raised amongst the local community using local channels
  - refer to smokeless tobacco products using colloquial terminology
  - consider how to challenge the perceived benefits of the products and how to advise users to cope with the potential adverse effects of withdrawal
  - consider the fact that some smokeless tobacco users may also smoke tobacco.<sup>li</sup>
- As with other forms of support, any targeted provision provided by specialist tobacco services around paan/chewing tobacco cessation needs to be linked together as part of a pathway with other support options to ensure messages and support provided remains consistent and relevant.

**Recommendation 11:** Explore how a refreshed service specification for tobacco cessation services/specific services could provide targeted support to chewing tobacco/paan users in and around Church Street and improved data collection on paan/chewing tobacco users approaching the service for support.

## 5.5 Other insight

- The focus of this insight project has been on levels of use of paan/chewing tobacco, motivations to quit/reduce habits and options for potential support solutions suited to the local community. As part of this information was gathered on the availability of products locally and awareness of the health impacts.
- The insight project has not explored licensing issues, which may be related to the trade of these products, including for example whether the products which contain tobacco comply with rules around displaying health warnings. This is similarly something which NICE did not look at within their guidance on smokeless tobacco cessation. However, UK research indicates that less than half (48%) of smokeless tobacco products contain *any* type of health warning with only 15% actually compliant with legislation on health warnings.<sup>liii</sup> With low cost and accessibility a contributing factor to tobacco consumption, and given the lack of awareness of the health risks associated with paan chewing, it is evident that tighter

regulation is required to address this issue and provide consumers with the information required to make informed choices.

## **5.6 Reflections on the insight project and future learning**

Whilst conducting this insight work and interpreting the findings from the questionnaire, the following learning points were noted, which may be of interest if a similar project was to be carried out in another geographical area:

- The questionnaire would benefit from the following additional questions:
  - A direct question as to how many other members of the household use chewing tobacco/ paan
  - Exploring what influenced users to start using the paan/chewing tobacco
  - Finding out at what age/what occasion users started using paan/ chewing tobacco
  - Inclusion of harm in pregnancy and submucous fibrosis (or a layman's description of the condition) in the question about the health risks of chewing paan/tobacco
- The question about the tobacco/paan products used could be clearer, so that it is more straightforward to interpret whether individuals are products containing tobacco/not.
- The questionnaire would also benefit from a question around whether users are aware that the products they use do or do not contain tobacco.

## 6 Appendices

### Appendix A: Topic guide for workshop around paan/chewing tobacco use

Mosaic survey:

6 Key themes for Paan / Betel Nut User Focus Groups, Church Street Library, 18 March 2013

#### **1- Understanding the different type of Paan brands usage**

- What are the names of the different Paan products do you use?
  - o Are they branded?
  - o What do the different types contain?
  - o Is there a difference between hand/factory made?
  - o Are any more special than others?
- Where do you buy these products from?
  - o UK
  - o Overseas? Where?
- Where in the UK do you buy these products from?
  - o Corner shop, particular market stall, other (specify where)?
- What is the price of each of these different products?
- How much do you buy/week ?
- Do you know how much you spend for chewing products per week/ per day?
- Who buys these products? children/ adults/ men/women
- Do you buy in bulk or single products?
- Why do you choose these products over other tobacco products

#### **2- Duration of use of Paan products**

- How long have you been using Paan products?
- What was the first occasion you remember trying it, how old, which country?
- How often have you been using them (how many times per day? How many times per week?)

- What is the occasion to use it? Ordinary or special (specify)?

### **3- Health effects and knowledge of harmful use of Paan**

- What are the harmful health effects of Paan/Betel Nut use?
- Has your or your family member's health been affected by the use of chewing products?

### **4- Motivation to stop use of Paan products**

- Have you ever stopped using Paan products?
- What made you to stop using Paan products?
- Did you start again and if so why?
- Who did you consult? (GP/ pharmacist/ Health Champion/ dentist)
- If you had advice from a health professional, what is your experience (positive and negative) having consultations from them?
- Would you recommend such health professional service to other Paan users to stop using such products?

### **5- GP and dentist involvement**

- Did your GP ever ask you if you chew Paan products
- If so, did they motivate or refer you to health professionals to stop chewing Paan
- Have you attended a dentist in the last year?
- If you chew Paan, did they motivate you to stop using these chewing products?

### **6- Those who has not stopped using Paan products**

- what are the barriers to stop using Paan products
- What can health services do for you to help stop chewing Paan products?
- Is there anything that you would be looking for in a service to support you to stop chewing these products?

## **Appendix B: Survey about paan/tobacco chewing**

### **Church Street Community Champions - Tobacco Chewing Survey**

Hello,

My name is \_\_\_\_\_ and I am helping Mosaic to understand more about paan chewing practices locally. We are really interested in hearing your views. This will help improve services locally.

The survey only takes about 15 minutes to complete. We will make sure that any personal information you give us is kept strictly confidential and won't be seen by anyone outside the survey team.

#### **Guidance for the interviewers:**

- Please explain to the respondent the importance of this interview, such as providing better health services for the local population to improve the health of the population.
- Please do not prompt answers from the respondent.
- Ensure that the respondent has enough time (roughly 15 minutes) to answer the below questions before the interview.
- Please ensure that the questionnaire is completed and that all relevant questions are answered

## A. About you & your family

Q1	How old were you on your last birthday?	
	<b>Tick one box only</b>	
	15- 24	<input type="checkbox"/>
	25-34	<input type="checkbox"/>
	35-44	<input type="checkbox"/>
	45-54	<input type="checkbox"/>
	55-64	<input type="checkbox"/>
	65-74	<input type="checkbox"/>
	75+	<input type="checkbox"/>

Q2	Gender	
	<b>Tick one box only</b>	
	Male	<input type="checkbox"/>
	Female	<input type="checkbox"/>

Q3	Were you born in the UK?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

Q4	If no, in which country where were you born? (please specify)	
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Q5	Were you born in a rural or urban area?	
	<b>Tick one box only</b>	
	Urban	<input type="checkbox"/>
	Rural	<input type="checkbox"/>

Q6	How would you describe your ethnicity?	
	<b>Tick one box only</b>	
	Indian	<input type="checkbox"/>
	Pakistani	<input type="checkbox"/>
	Bangladeshi	<input type="checkbox"/>
	Chinese	<input type="checkbox"/>
	Mixed ethnicity	<input type="checkbox"/>
	Other Asian	<input type="checkbox"/>

Q7	Which of the following best describes your level of education?	
	<b>Tick one box only</b>	
	I have less than 6 years of education	<input type="checkbox"/>
	I have more than 6 years but less than 12 years of education	<input type="checkbox"/>
	I have a university degree	<input type="checkbox"/>

Q8	What is your full postcode?	

Q9	How many people live in your home?	
	<b>You should include yourself in this number.</b>	
	<b>Tick one box only</b>	
	1	<input type="checkbox"/>
	2	<input type="checkbox"/>
	3	<input type="checkbox"/>
	4	<input type="checkbox"/>
	5 or more	<input type="checkbox"/>

Q10	How many children (under 18) are there currently living in your home?	
	<b>Tick one box only</b>	
	0	<input type="checkbox"/>
	1	<input type="checkbox"/>
	2	<input type="checkbox"/>
	3	<input type="checkbox"/>
	4 or more	<input type="checkbox"/>

Q11	Are you registered with a GP?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

Q12	How many times have you seen a GP during last 12 months?	
	<b>Tick one box only</b>	
	None	<input type="checkbox"/>
	1-3 times	<input type="checkbox"/>
	3-6 times	<input type="checkbox"/>
	More than 7 times	<input type="checkbox"/>

Q13	Are you registered with a dentist?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

Q14	Have you been to a dentist in the last 2 years?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

Q15	If you have visited a dentist in the last 2 years was it:	
	<b>Tick one box only</b>	
	For a regular check-up	<input type="checkbox"/>
	To continue a course of treatment (or follow-up)	<input type="checkbox"/>
	Because you were in pain	<input type="checkbox"/>

Q16	Do you currently suffer from any of the following	
	<b>Tick all that apply</b>	
	Problems with your teeth, mouth or gums	<input type="checkbox"/>
	Problems with digestion such as gastritis, reflux or acidity	<input type="checkbox"/>
	Depression, such as changes in mood, or anxiety	<input type="checkbox"/>
	Cancer	<input type="checkbox"/>
	Respiratory diseases such as asthma or COPD (Chronic Obstructive Pulmonary Disease)	<input type="checkbox"/>
	Diabetes	<input type="checkbox"/>
	Heart disease	<input type="checkbox"/>

## B. Household paan/tobacco consumption

Q17	Do you currently use any of the following?	
	<b><i>Tick all that apply</i></b>	
	Cigarettes	<input type="checkbox"/>
	Roll-ups	<input type="checkbox"/>
	Cigars	<input type="checkbox"/>
	Waterpipe (Shisha)	<input type="checkbox"/>
	Other pipe (please specify)	
	Paan with betal nut (Supari)	<input type="checkbox"/>
	Paan without betal nut	<input type="checkbox"/>
	Paan with tobacco	<input type="checkbox"/>
	Paan without tobacco	<input type="checkbox"/>
	Paan with betal nut and tobacco	<input type="checkbox"/>
	Paan leaf on its own	<input type="checkbox"/>
	Betal nut on its own	<input type="checkbox"/>
	Chewing tobacco on its own	<input type="checkbox"/>
	Chunna on its own	<input type="checkbox"/>
	Other tobacco chewing products (please specify)	
	Please specify if you smoke/use something other than the above?	
	None of these	<input type="checkbox"/>

Q18 Does anyone else in your home use any of the following even occasionally? Please specify for each person living in your home. (If you are living alone please ignore this question and go to question 19)					
		Person 1	Person 2	Person 3	Person 4
In the box beneath the heading 'Person 1/Person 2' etc please enter the person's relationship to you? e.g. Husband, Mother etc.					
<b>Tick all that apply to each person</b>					
Cigarettes		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roll-ups		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cigars		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waterpipe (Shisha)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other pipe (please specify)					
Paan with betal nut (Supari)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paan without betal nut		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paan with tobacco		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paan without tobacco		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paan with betal nut and tobacco		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paan leaf on its own		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Betal nut on its own		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chewing tobacco on its own		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chunna on its own		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other tobacco chewing products (please specify)					
Please specify if you smoke/use something other than the above?					
None of these		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Instructions for Community Health Champions**

(i) If the interviewee hasn't identified children, ask specifically whether any children in their household consume any of the above, even occasionally?

(ii) If the interviewee has stated that no-one in their home chews paan/tobacco, including themselves, then please go straight to Q28

Q19	Who buys paan products for you and your household?	
	<b>Tick all that apply</b>	
	I do	<input type="checkbox"/>
	My mother/ father (parents)	<input type="checkbox"/>
	My husband/ wife	<input type="checkbox"/>
	My children	<input type="checkbox"/>
	My neighbour	<input type="checkbox"/>
	My relative	<input type="checkbox"/>

Q20	If you/ someone in your household purchases paan/tobacco products, where do you/they buy them from?	
	<b>Tick all that apply</b>	
	I/they buy them from a shop close to my home	<input type="checkbox"/>
	I/they travel to another part of London to buy them	<input type="checkbox"/>
	I/they bring them back from my home country	<input type="checkbox"/>
	I/they buy them from an asian grocery shop	<input type="checkbox"/>
	I/they buy them from a restaurant	<input type="checkbox"/>
	I/they buy them from my neighbour/ friend	<input type="checkbox"/>
	I/they buy them from my relatives	<input type="checkbox"/>
	I/they buy them online (from a website)	<input type="checkbox"/>
	Other (please specify).....	

Q21	On average, how much do you think your household spends on paan per week?	
	<b>Tick one box only</b>	
	£0 to £5	<input type="checkbox"/>
	£6- £15	<input type="checkbox"/>
	£16- £30	<input type="checkbox"/>
	Over £30	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

### Instructions for Community Health Champions

This next section (Q22-27) only needs to be completed if the person you are interviewing chews paan/tobacco products

Q22	On an average day, how often do you chew paan/ tobacco?	
	<b>Tick one box only</b>	
	1- 4 times per day	<input type="checkbox"/>
	5- 9 times per day	<input type="checkbox"/>
	10- 14 times per day	<input type="checkbox"/>
	over 15 times per day	<input type="checkbox"/>
	2-3 times per week	<input type="checkbox"/>
	Only at a special occasions such as weddings and festivals	<input type="checkbox"/>
	Not at all	<input type="checkbox"/>

Q23	Why do you chew paan/tobacco?	
	<b>Tick all that apply</b>	
	It is part of our culture	<input type="checkbox"/>
	People around me chew paan/tobacco	<input type="checkbox"/>
	It helps me mix socially	<input type="checkbox"/>
	It helps me feel more confident	<input type="checkbox"/>
	It helps me concentrate	<input type="checkbox"/>
	It relieves boredom	<input type="checkbox"/>
	It is part of my daily routine	<input type="checkbox"/>
	I enjoy it and feel happy	<input type="checkbox"/>
	I cannot taste food without paan	<input type="checkbox"/>
	If I do not chew paan I am bad tempered and have mood changes	<input type="checkbox"/>
	I feel less tired when I chew paan	<input type="checkbox"/>
	I chew paan as a medication such as for pain relief e.g. toothache	<input type="checkbox"/>
	I chew/chewed paan to relieve morning sickness	<input type="checkbox"/>
	Paan keep my gums and teeth healthy	<input type="checkbox"/>
	It reduces stress/helps me relax	<input type="checkbox"/>
	It helps me control my weight	<input type="checkbox"/>
	It was expected of me after I got married	<input type="checkbox"/>
	I chew paan at special occasions such as weddings and festivals	<input type="checkbox"/>
	Other (please specify)	

Q24	On what occasion would you usually chew paan/ tobacco	
	<b>Tick all that apply</b>	
	Special occasions such as weddings	<input type="checkbox"/>
	Other social and community events	<input type="checkbox"/>
	At home with the family	<input type="checkbox"/>
	On my own	<input type="checkbox"/>

Q25	If you chew paan/tobacco, which of the following statements best describes you?	
	<b>Tick one box only</b>	
	I have tried in the past to give up but I am still chewing paan	<input type="checkbox"/>
	I am trying to give up	<input type="checkbox"/>
	I intend to give up in the next few months	<input type="checkbox"/>
	I am planning to give up in the future but not yet	<input type="checkbox"/>
	I would like to reduce the frequency I chew paan but not completely stop	<input type="checkbox"/>
	I don't intend on giving up <b>(if you select this option please go direct to Q28)</b>	<input type="checkbox"/>

Q26	What are your main reasons for wanting to give up chewing paan/tobacco?	
	<b>Tick all that apply</b>	
	Because of a health problem	<input type="checkbox"/>
	Better for my health	<input type="checkbox"/>
	Friends or family want me to stop	<input type="checkbox"/>
	Financial reasons	<input type="checkbox"/>
	Worried about the effect on my children or family	<input type="checkbox"/>
	Other (please specify)	

Q27	Which of the following, if any, do you think would help you stop chewing paan/tobacco?	
	<b>Tick all that apply</b>	
	Support from my GP	<input type="checkbox"/>
	Support from my dentist	<input type="checkbox"/>
	Advice from my pharmacist	<input type="checkbox"/>
	Support from friends or family	<input type="checkbox"/>
	Joining a support group	<input type="checkbox"/>
	One to one counselling	<input type="checkbox"/>
	Support from Community Health Champions	<input type="checkbox"/>
	Support from community leaders	<input type="checkbox"/>
	Support from a specialist service for tobacco cessation	<input type="checkbox"/>
	A safer alternative such as chewing gum	<input type="checkbox"/>
	Getting involved in local community activities	<input type="checkbox"/>
	Information and advice about the health risks of chewing tobacco	<input type="checkbox"/>
	Nothing, I need to do this by myself	<input type="checkbox"/>
	Other (please specify)	

Q28	According to your knowledge, which of the following health problems are caused by chewing paan/tobacco?	
	<b>Tick all that apply</b>	
	High cholesterol	<input type="checkbox"/>
	High blood pressure	<input type="checkbox"/>
	Heart disease	<input type="checkbox"/>
	Stroke	<input type="checkbox"/>
	Gum pain or toothache	<input type="checkbox"/>
	Mouth ulcers	<input type="checkbox"/>
	Loss of taste	<input type="checkbox"/>
	Loss of appetite	<input type="checkbox"/>
	Gastritis	<input type="checkbox"/>
	Lung cancer	<input type="checkbox"/>
	Oral cancer	<input type="checkbox"/>
	Breast Cancer	<input type="checkbox"/>
	Respiratory diseases such as asthma or COPD (Chronic Obstructive Pulmonary Disease)	<input type="checkbox"/>
	Diabetes	<input type="checkbox"/>
	Depression	<input type="checkbox"/>
	Other health conditions (please specify)	

Q29	Do you know who your community health champion is?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

**Q30 and 31 to be completed by Community Health Champions only**

Q30	Where did you carry out this interview	
	<b>Tick one box only</b>	
	At respondent's home	<input type="checkbox"/>
	At interviewer's home	<input type="checkbox"/>
	At a public place such as library, market area, or school	<input type="checkbox"/>
	On the street	<input type="checkbox"/>
	None of the above	<input type="checkbox"/>

Q31	Is the respondent one of your caseload families?	
	<b>Tick one box only</b>	
	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>

## Appendix C: Summary of key demographic data of respondents

Baseline population	Category	Sub-category	Number	Proportion
All respondents (n=263)	Gender	Men	31	12%
		Women	225	85%
		Unknown	7	3%
	Ethnicity	Bangladeshi	239	
		Mixed ethnicity	6	
		Indian	<5	
		Pakistani	<5	
		Other Asian	<5	
		Chinese	<5	
		Unknown	10	
Female Bangladeshi respondents (n=217)	Country of birth	Born in UK	11	5%
		Not born in UK	206	95%
	Place of birth (those not born in UK)	Urban area	36	17%
		Rural area	160	78%
		Unknown	10	5%
	Level of education	Less than 6 years	94	46%
		More than 6 years but less than 12 years	100	49%
		University degree	9	4%
	Age	15-34	55	25%
		35-44	50	23%
		45-54	44	20%
		55-64	47	22%
65+		21	10%	

Note where the number of respondents was fewer than 5 the number and proportion has not been disclosed to protect the confidentiality of the respondent

# Appendix D: Paan chewing: a literature review of the health impact of paan chewing and the effectiveness of interventions for prevention and quitting

## 1. Introduction

The practice of chewing betel or areca nut and derived products has been common in Asian countries for centuries and these products are regularly used in Asian migrant communities throughout the world. Sources report that it is the fourth most abused substance by humans after caffeine, tobacco and alcohol<sup>liii,liv</sup> with some reports estimating up to 600 million users globally.<sup>lv</sup>

In the UK the use of smokeless tobacco products (including betel nut) is common in South Asian communities although prevalence estimates have varied. The NHS Information Centre identified 9% Bangladeshi men and 16% Bangladeshi women use these products.<sup>lvi</sup> Prevalence is however thought to be higher in some localities and Croucher et al reported 48.5% of adult Bangladeshi women in Tower Hamlets had used smokeless tobacco products.<sup>lvii</sup>

Research has suggested that the following subgroups are more likely to use smokeless tobacco products:

- women
- people of Bangladeshi origin
- those in older age groups
- those from lower socioeconomic groups.<sup>lviii</sup>

Smokeless tobacco products are readily available from supermarkets in South Asian communities and there is evidence that the number of outlets is increasing, as well as the volume of products imported.<sup>lix</sup> There is a lack of regulation and products are easily accessible and inexpensive.<sup>lx</sup>

The practice of chewing these products is strongly rooted in cultural beliefs and tradition as well as their addictive nature. Among South Asian populations the use of smokeless tobacco is strongly associated with socializing and family tradition.<sup>lxi</sup> In addition, there are a number of perceived benefits from chewing paan and its component parts, with users reporting that it freshens the mouth, that it aids the digestion, is a stimulant, and creates a feeling of euphoria.<sup>lxii</sup>

Despite a growing evidence base on the harmful effects to health there is still a lack of awareness among users. In a systematic review of the social context of smokeless tobacco use, Kakde et al found limited awareness of the risk of oral cancers but a distinct lack of knowledge of other health effects, including cardiovascular disease.<sup>lxiii</sup> Misconceptions on the perceived health benefits and this lack of knowledge of the health risks contribute to South Asians in England chewing smokeless tobacco products.<sup>lxiv</sup>

## 2. Definition of smokeless tobacco

One of the complications in conducting this literature review (and in researching the topic generally) has been the different terminology used (e.g. smokeless tobacco, betel quid, areca nut, gutka, and paan) and the variety in the combination and quantity of ingredients that are used to make up the smokeless tobacco product. It is hard to differentiate the harmful effects of different components, particularly betel nut and tobacco, due to difficulties faced by researchers in analyzing in detail the content of different smokeless tobacco products used by study participants. Overall the literature has tended to focus on the effects of chewing betel/areca nut or ‘betel quid’ (synonymous with paan). Due to these complexities, the terminology used by individual studies has been employed in this literature review.

The areca nut is a fruit taken from a tropical palm (*areca catechu*) and is also commonly referred to as betel nut. The nut is wrapped in the betel leaf with slaked lime to form the ‘betel quid’ or paan. Tobacco may or may not be added to this mixture. Sweeteners may also be added and in commercial products (such as *supari*) it is common for the areca nut to be flavoured.

The following table regarding the composition of different types of chewing substance is taken from the IARC (International Agency for Research on Cancer) monograph on betel quid and areca nut chewing.<sup>lxv</sup>

	Areca nut	Betel			Catechu	Tobacco	Slaked lime
		Leaf	Inflorescence	Stem			
Areca	X						
Betel quid without tobacco	X	X			Optional		X
Betel quid <u>with</u> tobacco	X	X			Optional	X	X
Gutka	X				X	X	X
Pan masala	X				X		X
Khaini						X	X
Mawa	X					X	X
Mainpuri tobacco	X					X	X
Lao-hwa (Taiwan)	X		X				X
Betel quid (Taiwan)	X	X					X
Stem quid (Taiwan)	X			X			X
Naswar						X	X
Zarda						X	X

IARC define betel quid as consisting of betel leaf, areca nut and slaked lime, and possibly tobacco. A ‘betel quid’ is synonymous with paan (or pan). Supari is a term often used to refer to the betel/areca nut.

An additional complication with the term ‘smokeless tobacco’ is that often this can refer to a range of very different products. In studies of Western populations (mostly US and Scandinavia) the term commonly refers to chewing tobacco or snuff that is taken either orally or nasally. Snuff (called ‘snus’ in Scandinavia) is tobacco in powdered form. For the purposes of this review, where identifiable, these studies have been excluded and instead has focused on the smokeless tobacco products more commonly used within South Asian populations.

### 3. The health impact of smokeless tobacco

It is widely acknowledged that there are a number of adverse health effects associated with chewing paan, and in particular there is a strong evidence base in relation to oral health. NICE identify the following health problems associated with smokeless tobacco in South Asian populations:

- nicotine addiction
- mouth and oropharyngeal cancer
- dental disease
- cardiovascular disease
- problems in pregnancy and following childbirth (including fetal anaemia, placental pathology, stillbirth, pre-term birth, and low birthweight)
- late diagnosis of dental problems (because the smokeless tobacco product helps mask the pain).<sup>lxvi</sup>

Javed et al (2010) highlighted the harmful effects of areca nut usage on systemic health and reported associations with cardiovascular disease, cerebrovascular disorders, metabolic syndrome and type 2 diabetes, hepatic disorders, renal disorders, and birth outcome.<sup>lxvii</sup>

#### 3.1 Oral Cancer

Oral cancer, or mouth cancer, is where a tumour develops on the surface of the mouth, tongue, lips or gums. Tobacco (smoking or smokeless) is a key risk factor as well as drinking alcohol, poor diet, and infection with the human papilloma virus (HPV). If diagnosed early the outlook is good, but if diagnosed late and the cancer spreads to the surrounding tissue only 1 in 5 people will live for at least 5 years following diagnosis.

There is strong evidence of the carcinogenic effect of betel nut and this is significantly associated with the development of potentially malignant disorders and an increased risk of oral cancer.<sup>lxviii,lix,lxx</sup> The addition of tobacco appears to make a small increase to the risk.<sup>lxxi</sup> In a random sample of 8922 participants from 6 Asian populations, Lee et al (2012) found that those with betel quid dependency had a higher risk (between 8 to 51 times more likely) of oral potentially malignant disorder (OPMD) compared to non-users.<sup>lxxii</sup> People who used betel quid but were not dependent were 4 to 6 times more likely to have OPMD.

Chewing betel nut is also associated with an increased risk of oropharyngeal cancer.<sup>lxxiii</sup> Data analysis of 50,552 cancer patients in Pakistan<sup>lxxiv</sup> found that those who used smokeless tobacco

were four times more likely to develop oropharyngeal cancer than those with no history of tobacco use. In fact, the risk for users of smokeless tobacco was twice as great as those who smoked cigarettes.

Consumption of tobacco (smoked and smokeless) is one of the most established risk factors for oral cancer (over 90% of patients with oral cancer use tobacco in some form). In the case of both smoking and chewing tobacco, the risk is dependent on dose and duration of use. Although it is not known how the use of smokeless tobacco products are linked to the increase in oral cancer, it is known that South Asian women are 3.7 times more likely to have oral cancer and 2.1 times more likely to have pharyngeal cancer compared with other women (and they are also some of the principal users of smokeless tobacco). This has been found to be the case, even after controlling for the effect of socioeconomic deprivation.<sup>lxxv,lxxvi,lxxvii,lxxviii</sup>

At least three-quarters of oral cancers could be prevented by the elimination of tobacco use and a reduction in alcohol consumption. The removal of these two risk factors also reduces the risk of second tumours in people with oral cancer. Smoking cessation is associated with a rapid reduction in the risk of oral cancers, with a 50% reduction in risk within 3 to 5 years.<sup>lxxix</sup>

### **3.2 Periodontal (gum) disease**

Periodontal diseases are conditions which affect the tissue, such as the gum and bone, around a tooth or teeth which become inflamed and infected. Periodontal diseases include gingivitis and periodontitis.

Chewing smokeless tobacco products has an impact on periodontal disease as highlighted in a number of reviews and studies, particularly from India. In a cross-sectional study involving 2045 participants in Lucknow, Singh et al (2011) found that the use of smokeless tobacco had a significant impact on a range of periodontal health indicators, including plaque index, gingival index, calculus, clinical attachment loss, gingival recession, mobility, furcation, lesion, and probing pocket depth. The incidence and severity of these indicators were significantly higher for longer duration (>5 years) smokeless tobacco users compared to non-tobacco users.<sup>lxxx</sup> Javed et al (2010) reported an association between gutka consumption and periodontal inflammation.<sup>lxxxi</sup>

A cross-sectional study in Tower Hamlets found that although 26% of a sample of Bangladeshi patients (n=137) required periodontal treatment, there was a significant association between chewing paan with tobacco and absence of gingivitis.<sup>lxxxii</sup>

### **3.3 Oral Submucous Fibrosis (OSF)**

Oral submucosal fibrosis (OSF) is a chronic and irreversible disease characterised by inflammatory reaction and progressive fibrosis of the submucosal tissues. As the disease progresses the jaws become rigid and it becomes difficult to open the mouth. The condition has been linked to oral cancers and is most prevalent in the South Asian population.

There is strong evidence that habitual use of areca nut is associated with OSF.<sup>lxxxiii,lxxxiv,lxxxv</sup> In a review of studies Javed et al (2010) reported a direct relationship between gutka and OSF, with studies indicating a user was 1.65 to 5 times more likely to develop the condition.<sup>lxxxvi</sup>

Tilakaratne et al (2006) report that the frequency and duration of chewing is important in the development of OSF, and that commercial freeze dried products contain higher concentrates of areca nut than self-prepared betel quid, and so cause OSF more rapidly.<sup>lxxxvii</sup>

OSF is considered as a pre-malignant stage of oral cancer, and the reported risk of developing cancer is 2.3-7.6%.<sup>lxxxviii</sup>

### **3.4 Cardiovascular disease**

Cardiovascular disease (CVD) is a term that describes diseases that affect the heart and/or blood vessels. These include coronary heart disease, stroke, peripheral arterial disease, and aortic disease.

In a recent review of vascular risk, chewing tobacco was found to cause acute coronary vasoconstriction and increases in the heart rate. It was also associated with increased risk of coronary heart disease and CVD mortality.<sup>lxxxix</sup>

This is reinforced by a meta-analysis on the impact of chewing substances (defined as any type of chewing tobacco or betel quid with or without tobacco) on cardiovascular risk in Asia.<sup>xc</sup> The relative risk of CVD for those who had ever chewed was 1.26 (95% confidence interval (CI) 1.12-1.40), for ischemic heart disease was 1.27 (1.02-1.52), and for cerebrovascular disease was 1.32 (1.08-1.56). The authors conclude that there is an association between betel chewing (with or without tobacco) and risk of CVD, and that betel chewing may be a greater risk factor than smoking tobacco. Although only 8 studies were identified for the meta-analysis, it is worth noting that the majority of those which measured CVD risk were cohort studies based in Taiwan where betel quid was chewed without tobacco. This evidence indicates that chewing betel nut can be harmful to the cardiovascular system.

One of these studies from Taiwan found strong evidence of a higher risk of CVD mortality (Relative Risk (RR) 2.10) for current and former betel nut chewers.<sup>xc</sup> Greater frequency was also associated with greater CVD and all-cause mortality.

### **3.5 Metabolic syndrome**

Metabolic syndrome is not a disease in itself. It is the term for a combination of risk factors which increase your risk of heart disease and stroke. This includes hyperglycemia (diabetes mellitus), dyslipidemia, hypertension, and obesity.

Although research is limited there is some emerging evidence that chewing areca nut may be linked with metabolic syndrome. In a systematic review Javed et al (2012) identifies an association

with hyperglycaemia, type 2 diabetes, obesity and increase body mass index. However, they also acknowledged that there may be other confounding factors at work (such as low socio-economic status and poor education).<sup>xcii</sup>

In the only UK study included in the review, waist size was strongly related to betel usage (independent of other factors such as age) in a sample of 993 Bangladeshi people aged between 15-83 years. The authors concluded that as waist and age were the major markers of increasing glycaemia, betel chewing may contribute to the risk of developing type 2 diabetes.<sup>xciii</sup>

### **3.6 Pregnancy**

There is convincing evidence that chewing betel nut during pregnancy is significantly associated with a reduction in birth weight and length.<sup>xciv,xcv</sup> Low birth weight increases the risk of childhood mortality and developmental problems and is associated with poorer health in later life. There is a lack of awareness among pregnant women on the adverse health effects of chewing betel nut during pregnancy.

## **4. Interventions for paan chewing**

Despite the considerable scientific research detailing the harmful effects of chewing paan or betel nut, there is a limited evidence base on effective interventions. However, it is clear that a multifaceted approach is required to address the habit and its impact on health, including regulation of sales and labelling, raising public awareness of the health risks, linking in with the local community, and targeted culturally-sensitive cessation services.

This section considers the NICE guidelines and best available evidence on effective interventions.

### **4.1 National guidance (NICE)<sup>xcvi</sup>**

The NICE guidelines on smokeless tobacco among South Asian communities make recommendations covering:

- assessing local need
- working with local South Asian communities
- commissioning smokeless tobacco services
- providing brief advice and referral: dentists, GPs, pharmacists, and other health professionals
- specialist tobacco cessation services (including stop smoking services)
- training for practitioners.

Agencies are advised to assess local need and to work with local South Asian communities to plan, design, coordinate, implement and publicise activities to help them stop using smokeless tobacco. Materials created to raise awareness of services should use local terminology, provide information about health risks, and challenge perceived benefits of the product, should be available in different

languages, include information for subgroups (e.g. older Bangladeshi women) and be sensitive to culture and religion. Existing information networks should be used to disseminate information.

### Brief advice and referral

Dentists, GPs, pharmacists and other health professionals should ask people if they use smokeless tobacco (using local terminology) and if so, should make sure they are aware of the health risks and provide a brief intervention to advise them to stop.

In addition, those who want to quit should be referred to a local specialist tobacco cessation service.

Brief interventions may include one or more of the following:

- simple opportunistic advice
- an assessment of the person's commitment to quit
- pharmacotherapy and/or behavioural support
- self-help material
- referral to more intensive support e.g. an evidence-based smoking cessation service.

### Specialist tobacco cessation services

Where there is an identified level of need, NICE offer advice for commissioning specialist services, including:

- Provide services for South Asian users either within existing tobacco cessation services or, for example, as:
  - A stand-alone service tailored to local needs. This might cater for specific groups such as South Asian women, speakers of a specific language or people who use a certain type of smokeless tobacco product.
  - Part of services offered within a range of healthcare and community settings (for example, GP or dental surgeries, community pharmacies and community centres).
- Ensure that services are coordinated and integrated with local tobacco control strategies and activities.
- Ensure services take into account the needs of people:
  - from different local South Asian communities
  - who may be particularly concerned about confidentiality
  - who may not realise smokeless tobacco is harmful
  - who may not know help is available
  - who may find it difficult to use existing local services because of their social circumstances, gender, language, culture or lifestyle.

Full details of the recommendation for commissioning services can be found at:

<http://publications.nice.org.uk/smokeless-tobacco-cessation-south-asian-communities-ph39/recommendations#recommendation-3-commissioning-smokeless-tobacco-services-in-areas-of-identified-need>

Health professionals should be trained to understand the local level of need, the health risks, symptoms of paan use, how to provide information in a culturally sensitive way, and to deliver brief interventions and refer to local specialist tobacco cessation services.

#### **4.2 Stop Smoking Services**

In recent years the evidence has demonstrated that overall there is a low uptake of NHS Stop Smoking Services by minority ethnic groups. There is limited good quality research evaluating the effectiveness of specialist stop smoking programmes which target minority ethnic groups,<sup>xcvii</sup> although the broader evidence clearly demonstrates the considerable health benefits of tobacco cessation<sup>xcviii</sup> and supports the NICE guidance. The two projects below, highlighted by the Race Equality Foundation, describe successful tobacco cessation programmes targeting minority ethnic groups, however it is important to note these do not specifically include smokeless tobacco chewing.

STOP!, an NHS Stop Smoking service in Leicester, increased uptake among minority ethnic groups from 14% in 2007–08 to 21% in 2010. This was achieved through partnership with local GPs, Pfizer, community colleges, Imams, the Federation of Muslim Organisations and Confederation of Indian Organisations. STOP! also carries out campaigns during Ramadan with media coverage through local radio stations.

The Bangladeshi Tobacco Cessation Project in the London Borough of Tower Hamlets aims to tackle barriers to services by addressing language and cultural sensitivities. Clients are supported in ways and in locations that make them feel at ease. This includes a gender specific support worker, home visits to women and elderly, regular drop-in sessions, language of preference, and offering support and understanding. The project reported four-week quit rates ranging from 63% to 68% (above the national average) for three years from 2003–06.<sup>xcix</sup>

A quasi-experimental study<sup>c,ci</sup> involving 130 Bangladeshi women from two housing estates in Tower Hamlets, suggested that methods used to stop cigarette smoking (in this case, Nicotine Replacement Therapy) may be used for Bangladeshi women who chew paan. Study participants received either NRT with brief advice and encouragement (n=65) or brief advice and encouragement alone (n=65). Outcome measures were self-reported tobacco use, validated by salivary cotinine levels at 4 week follow-up. Of the 23 who quit after 4 weeks, 13 had received NRT and 10 received the brief advice and encouragement only. The authors report that the NRT group made a significantly greater reduction in their salivary cotinine scores at final review compared to baseline. However, the significance is not reported and it is difficult to disentangle the impact of the brief advice and encouragement from the NRT as these were delivered in combination.

### 4.3 Oral cancer screening

If diagnosed in its early stages oral cancers can respond well to treatment, therefore it is important that screening takes place in dental practices and patients attend for regular dental check-ups. It is also important that practitioners keep up date on diagnosis of suspicious lesions and that patients are fast tracked to appropriate services. Furthermore, since patient delay is cited as the main reason for late presentation, it seems probable that the public are unaware of the risks of oral cancer and its symptoms. This suggests that greater public education is needed.

Nunn et al<sup>cii</sup> report on findings from an oral cancer screening programme carried out in Tower Hamlets in wards with the highest proportion of Bangladeshi residents. The screening was carried out in two phases (first phase 2006/7 and then second phase in 2008) using a mobile dental unit. Of the 1320 people screened, 75 were urgently referred for further investigation. In all, 55 of these referrals received a definitive diagnosis with 17 (31%) diagnosed with a potentially malignant disorder. The remaining 38 had benign lesions. Participants who chewed paan with tobacco were eight times more likely to be referred to secondary care, although there was no significant association for those who chewed paan *without* tobacco. The authors suggest that this is a feasible model for oral screening in the Bangladeshi community and for other high-risk communities.

### 4.4 Regulation

Smokeless tobacco products are required to have health warnings, however there is evidence that many of these products do not comply with the law. In a study on the accessibility of chewing tobacco products in England, Longman et al (2010) found that less than half (48%) of chewing tobacco purchased had any form of health warning, while only 15% of products complied with the current legislation of health warnings for smokeless tobacco products.<sup>ciii</sup> The authors describe the difference between regulations for smoked and chewing tobacco in the table below:

Legal control	Smoked tobacco	Chewing tobacco
<i>Contents and yields information</i>	Ingredient disclosure Machine smoke yields	Ingredient disclosure
<i>Identifying codes on packs</i>	Code identifying place, time and date of manufacture	Not required
<i>Excise duty</i>	Liable	Liable
<i>How sold</i>	>10 cigarettes	No quantity limits
<i>Age of sale</i>	>18 years; age of sale notice must be shown in premises selling the products	>18 years; age of sale notice must be shown in premises selling the products
<i>Advertising and promotion</i>	Banned except for 1 A5 poster at point of sale	Banned except for 1 A5 poster at point of sale
<i>Health warnings</i>	Front: select 1 from 2 warnings Back: select 1 from 14 warnings Rules concerning size, layout and position	1 health warning: This product can damage your health and is addictive

Legal control	Smoked tobacco	Chewing tobacco
		Size unclear, layout and position same as for cigarettes
<i>Pictorial warnings</i>	Before 1 October 2009	Not required

As betel (or areca) nut is considered a food product this falls within the remit of the Food Standards Agency. NICE note that the “Agency is currently working with UK Asian communities to provide guidance on how to minimise the risk from consuming products containing areca nut.”

Nair et al (2012) report on the impact of a ban on the production, sale, distribution and storage of gutka and paan masala in the Indian state of Maharashtra.<sup>cv</sup> Although results found a reduction in local supply, demand and use of gutka and paan masala, it is worth noting that vendors reported a shift towards other products not included in the ban e.g. paan with tobacco or mawa (chewing tobacco with lime). There was an increase in stigma associated with gutka use in public, although this was largely due to the public embarrassment from being caught selling or using gutka. There was an increased awareness among the shop owners interviewed of the risk of cancer from using gutka but whether the ban has a long term effect on cancer prevention and reduction remains to be seen, particularly as gutka users may have switched to other tobacco products. The authors concluded that to sustain the impact of the ban it would be important to continue an effective level of monitoring and policing, as well as programmes to raise awareness of the harmful effects of smokeless tobacco.

#### **4.5 Health education**

Raising awareness of the health risks of chewing paan is vital to prevention as well as improving participation in Stop Smoking services. Research among the Gujarati community in West Yorkshire<sup>cv</sup> found that a community health education programme was effective in raising awareness of oral cancer risk factors among both first and second generation men and women.

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