Healthy Mouths

A peer-led health audit on the oral health of people experiencing homelessness

Groundswell

Out of homelessness

Trust for London

Tackling poverty and inequality

Executive Summary

Healthy Mouths is a research study into the oral health of people experiencing homelessness, which was conducted by Groundswell and was led by Peer Researchers. The study engaged 262 people who are currently homeless in London, utilising focus groups and one-to one interviews and also engaged over 50 professionals working in this area. The Healthy Mouths study reveals that homeless people suffer extremely poor oral health compared to the general population.

This research makes it clear that the experience of homelessness has a significant negative impact on an individual's oral health and also creates barriers to accessing treatment. Poor oral health was shown to have a considerable adverse effect on homeless people's quality of life and ability to move on from homelessness. Supporting people to move on from homelessness means that as a society we all gain from the reduced cost burden of homelessness and from the increased contribution that formerly homeless people have to offer.

This study has shown that homeless people have considerable trust in dentists and place a high value on good oral health. This means that with proactive support from oral health commissioners, clinicians and homelessness professionals, we can support homeless people to improve their oral health, which will make an important contribution to improving homeless people's overall health and well-being and ability to move on from homelessness – with broad benefits for society.

The Health Mouths study reveals detailed findings in five keys areas:

1. The oral health of participants was very poor and significantly worse than the general population.

1.1. **90% have had issues with their mouth since becoming homeless.** Particularly common were bleeding gums (56%), holes in teeth (46%) and dental abscesses (26%).

1.2. **Many participants had experienced considerable dental pain.** 60% had experienced pain from their mouths since they had been homeless. 30% were currently experiencing dental pain.

1.3. **70% reported having lost teeth since they had been homeless and 7% had no teeth at all.** 35% had teeth removed by a medical professional, 17% lost teeth following acts of violence and 15% of participants pulled out their own teeth.

2. The day to day realities of homelessness are having a significant impact on the oral health of people experiencing homelessness.

2.1. **The diet of many participants is damaging to oral health.** Lack of access of healthy food and a need for a source of energy meant high levels of sugar consumption were present.

2.2. **High rates of drug and alcohol misuse and smoking tobacco were likely to be damaging oral health.** 37% had alcohol misuse issues, 33% had drug misuse issues and 78% were current smokers. The physical impacts of drug and alcohol on oral health were often compounded by declining self-care.

2.3. **Poor mental health was common among participants with 51% reporting to have mental health difficulties.** This had a significant impact on participant's ability to care for themselves and seek treatment.

2.4. **Participants highly valued and understood the importance of taking care of their oral health.** However, levels of self-care and motivation to care for teeth was impacted by homelessness.

2.5. **Rates of cleaning teeth were significantly lower than the advised minimum levels.** 35% cleaning their teeth twice a day or more (compared to 75% in the general population) and 29% cleaning their teeth less than once a day or never.

3. Significant barriers were present that prevented access to dental treatment and ongoing care:

3.1. **Rates of attendance at dentists was far lower than in the general population.** 23% of participants had been to the dentist in the last 6 months and a further 16% had been in the last 6 months to a year. However, a quarter of participants had not been to the dentist for over 5 years.

3.2. **Rates of sign-up with a dentist were low.** 36% of participants told us that they were currently 'registered' with a dentist. 31% had made an unsuccessful attempt to sign up with a dentist.

3.3. **A lack of information on entitlements and how dental services work was identified.** 58% of participants were unclear what they were entitled to with NHS Dentists.

3.4. **Need for emergency treatment was high.** 38% had needed emergency dental treatment and 31% have accessed Emergency Dental treatment.

3.5. **Homelessness services could play a greater role in supporting clients to have good oral health.** Hostels and day centres could be more proactive in providing dental hygiene products, supporting clients to get to the dentist and hosting dental professionals to visit their service.

4. Poor oral health is having a significant impact on participants' quality of life and in some cases may be limiting their ability to escape homelessness.

4.1. **Participants were regularly facing issues with their oral health that were making it difficult for them to live fulfilled lives and maintain social networks.**

4.2. **A significant number of participants had been 'handicapped' by oral health issues.** 21% had been 'completely unable to function' in the last year compared to 1% in the general population.

4.3. **Alcohol and drugs were commonly used in an attempt to manage oral health issues.** 27% of participants have used alcohol to help them deal with dental pain and 28% have used drugs. This may be contributing to continued drug and alcohol misuse.

4.4. **The knock-on effect is that other support services may be under increased pressure.** 27% had been to A&E when they have had dental problems and it is likely that it may be putting increased pressure on mental health services.

5. Despite the problems highlighted in this study, homeless people's trust in dentists was high and there was significant value placed in oral health. This indicates that with the right support and treatment participants could have significantly better oral health.

5.1. **Participants valued their oral health. Good oral health was aspired to by participants.**

5.2. **Participants demonstrated a high regard for dentists and the work they do.** 89% of participants felt that dentists are there to help, 80% reported that dentists communicated well.

5.3. **The study showcases examples of how when dental issues have been solved it has made a significant impact on people's lives.**

Healthy Mouths Recommendations

Based on the findings of the Healthy Mouths study including interviews undertaken with 262 people experiencing homelessness and the views of 50 people working with homelessness in the medical, dental and social sectors, Groundswell has developed the following recommendations for commissioners, for dental services and for homelessness services.

For Health and Homelessness Commissioners

Effective commissioning of homelessness and health services is essential to improving oral health among people experiencing homelessness, and ultimately reduces the reliance on emergency care and other support services, with clear cost saving implications. There are common themes in the needs of homeless population nationally but an assessment of specific local needs is essential in this process. Groundswell recommends:

I. Enhanced contracts and additional funding. General and community dental services should be financially encouraged to offer an 'enhanced service' that works with vulnerable groups including homeless people.

2. Funded dental appointment slots for homeless people. To avoid penalising dentists who work with people experiencing homelessness, we recommend that general and community dentists are funded to have dental appointments that are specifically targeted at people experiencing homelessness that, once booked, are funded whether people attend or not.

3. Homelessness exemption on FPI7 Form. Currently general dental practices are required to provide an address for patients on the FP17 form to claim payment for dental work delivered. As people experiencing homelessness may not have an address or proof of exemption in order to access NHS dental treatment adding an exemption to the FP17 form relating to homelessness would alleviate this barrier.

4. Mobile dental services. The provision of mobile services can be an effective way to proactively reach vulnerable people who need oral health services, but who struggle to access mainstream provision. Accessing mobile services can be the first step towards people taking control of their oral health and we recommend more widespread commissioning of these services including a hygienist - particularly in areas with large homeless populations.

5. Access to hygienists. Recognising the essential role that hygienists play in maintaining and stabilising oral health we recommend improving access to hygienists for people experiencing homelessness by commissioning them to specifically work in and with homelessness services parallel to other enhanced contracts and mobile dental services.

6. Independent Peer Advocacy support. Working with Clinical Commissioning Groups to ensure that an independent peer support service is commissioned locally is an effective way to ensure homeless people can access mainstream or specialist oral health services.

7. Promoting services. Creating demand for the newly commissioned Community Dental Services requires awareness of what is available and how to access it. We recommend that any new service provision, such as the newly commissioned dental services in London, is accompanied by extensive promotion specifically to homelessness services.

8. Peer research, consultation and co-design.
Oral health services are more likely to meet the needs of homeless patients, if you directly involved people with experience of homelessness in the design and commissioning of services.

For Dental Services

Dental services play a key role in both the prevention of dental disease and the provision of treatment that can provide relief from pain and restore the oral health of people experiencing homelessness. We recommend:

9. Appointment slots that meet the needs of homeless people. People experiencing homelessness may live chaotic lives that can make attendance at appointments challenging. The following steps will enable appointments that better meet the needs of homeless people:

- **Flexible appointments.** Asking people experiencing homelessness which time slots they are most likely to be able to attend and offering flexibility around this when booking is key. In reality, this may be instigated by providing fixed-time appointments for those patients that request them and walk-in appointment slots for those who turn up with pain or may not have been able to attend their allocated time.

- **Homelessness service slots.** Booking appointment slots with a homeless service or hostel rather than for named-individuals may allow whoever is available on the day to utilise the slot and attend with a support worker.

- **Lenient missed appointment policies.** Policies regarding missed-appointments should take into account unfavourable social circumstances and difficulties in accessing services with regularity. Denying future appointments to people experiencing homelessness due to their failure to attend fixed-time appointments can widen oral health inequalities and may lead to greater disengagement and mistrust of dental services.

10. Training. It is important that community and general dental services have access to training and information to develop their understanding of the issues affecting homeless people and other socially excluded populations and to better understand how to work more effectively with this group. The ideal time to begin this process is in dental schools when people are early on in their clinical training.

11. Communication and patient preference. One of the themes that arose from the interviews undertaken with people experiencing homelessness was their concern that dentists were removing teeth rather than attempting to preserve those that remain. Where a person experiencing homelessness is seeking dental care, all treatment options including their respective risks, benefits and alternatives should be discussed in plain, simple English; where language is a barrier an interpreter should be sought. In addition to verbal communication, literature should be provided on each of the options and for those who cannot read, pictures, photographs or models are recommended to be made available to facilitate the understanding of the treatment options and the basis for the dentist's clinical decision-making. Ultimately, the final decision of dental treatment type must lie with the patient. However, where the dentist feels that a decision may not be in the best interests of the patient's oral health or clinically inappropriate, they are not obliged to provide it. Patient centred care and respect for individual preferences must lie at the heart of any treatment decision and for those patients who request restorative care rather than extractions this should be attempted where possible.

12. Building links with local homelessness services. Dental services should reach out to local homelessness services- for example by offering dental products, promotional leaflets and posters and ideally offering outreach visits. This can ensure homeless people use your service more effectively. Proactively going to meet homeless people in homelessness services can reduce fear and stigma on both sides.

For Homelessness Services

Homelessness services can make a real difference in supporting people experiencing homelessness to improve their oral health. Groundswell recommends:

13. Provision of dental health products. Services like hostels and day centres should proactively offer an ongoing supply of toothbrushes and toothpaste to service users.

14. Training in oral health for homelessness staff. Staff to be trained to better understand oral health promotion messages and to be aware of local services and how to access them. We encourage support workers to promote and signpost dental services for their clients.

15. Oral health in-reach. Homelessness services to proactively contact local dental services and invite them in to give promotional materials, run promotion sessions or ideally deliver dental services on site.

16. Sugar-free options and nutritional information. Homelessness services who provide food to ensure that they offer more sugar-free food options and information on sugar for people who use their services.

For Researchers and Policy Makers

While the Healthy Mouths research has revealed the significant barriers that people face when accessing services, we recommend further exploration in the following ways:

17. Mapping services nationally. In recognition that this project has brought together services working to improve the oral health of homeless people from around the country, there is a role to play on a national level to first understand the availability of provision then capture and promote the effective good practice that already exists.

18. Understanding the effectiveness of interventions. There is a case for further detailed research to better understand the effectiveness of oral health interventions targeted at people experiencing homelessness.

19. Understanding the role of drugs services in good oral health. There is an understanding that drug and alcohol recovery and oral health stabilisation play an interlinked and complimentary role; however there is a lack of clear research into how these sectors can work more effectively together. We recommend further research into this area.

Good Practice Examples and Resources

The Healthy Mouths project has also revealed the excellent work that is already being delivered across the UK and we have included links to relevant materials and services.

- Working with Homelessness Services. Revive Dental Care in Manchester deliver excellent work providing free dental care to people experiencing homelessness and other hard to reach groups. Find out more at: *http://www.revivedentalcare.co.uk*
- Mobile Dental Services. The new mobile dental service provided by Dentaid in the UK which is delivered by volunteers provides an alternative route to commissioned mobile dental services. Find out more at: *www.dentaid.org/uk/*
- Homeless Health Peer Advocacy. The Evaluation of Groundswell's Homeless Health Peer Advocacy Service demonstrates the potential for improved health for homeless people and cost savings for commissioners through proactive peer support services here: *http://groundswell.org.uk/homeless-health-peer-advocacy/saving-lives-saving-money/*
- Training Resources. The Smile4life Guide for Trainers is an excellent evidence-based resource for all health and social care professionals' in delivering oral health messages to meet the specific and exceptional needs of homeless people. Available at: *https://www.scottishdental.org/library/smile4life/*
- Finding Homelessness Services. You can find your local homeless service by searching Homeless Link's website. *http://www.homeless.org.uk/search-homelessness-services*

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Figures and Tables

1. Introduction

Oral health is a significant area of health inequality for people experiencing homelessness. While poor oral health can have a large impact on physical health more broadly it also has wider ranging psychosocial impacts that can be incredibly damaging to quality of life and wellbeing. Using a mixed methods methodology led by peer researchers who have personal experience of homelessness themselves, this study explored the level of oral health of homeless people in London and the possible impacts that dental issues may be having on the day-to-day lives of participants. The study highlights the driving factors that may be leading to poor oral health and attempts to better understand the causes and consequences of the issue.

This topic of oral health was set in collaboration with Groundswell's Homeless Health Peer Advocates who support homeless people to over 300 dental appointments each year across London. Our advocates' experiences in their day-to-day roles and the stories told to us by participants in this study reveal that while oral health is a significant issue, with the right support improving oral health does not just mean better smiles, but can significantly change lives for the better.

"When I got my teeth sorted, oh it was amazing. Even just seeing the look in peoples' eyes – like it took me ages to stop putting my hand to my mouth. My mum and my dad, whenever I would see them periodically it was like, oh your teeth are getting worse, your teeth are getting worse. My Mum in particular, because I was handsome wee lad, [would say] sort your teeth out! And when I did I noticed it was almost like the way that people interacted with me – I don't know if they sensed that I was more at ease with myself when I smiled kind of thing. So they could smile with me. Because I think when I was doing that, they felt embarrassed for me, do you know what I mean? I actually feel that getting my teeth sorted has helped me to turn a corner. They don't hurt anymore and I'm not drinking now. I'm not embarrassed. I can start looking to the future." – Focus Group Participant

2. Groundswell's Work

Groundswell is a charity which enables homeless and vulnerable people to take more control of their lives, have a greater influence on services and play a fuller role in the community. We deliver a range of innovative projects which put homeless people at the heart of solutions to homelessness – the main body of our work focuses on homelessness & health.

Groundswell's Homeless Health Peer Advocacy (HHPA) service supports homeless people to access healthcare, delivered by Peer Advocates – volunteers who all have personal experience of homelessness. Peer support enables people to overcome the practical, personal and systemic barriers which prevent them from addressing their health needs. This year we are on course to deliver over 3,000 one-to-one engagements, and 450 Health Promotion sessions with people experiencing homelessness. We also deliver peer support projects focusing on TB and on Hep C.

Groundswell's Insight and Action programme is a radical grassroots approach to discovering and sharing cutting-edge insight into the health inequalities faced by people experiencing homelessness in London; and crucially, to develop achievable solutions to reduce health inequalities for homeless people. Through the analysis of data collected through over 3,000 Homeless Health Peer Advocacy appointments and in ongoing qualitative work with our Peer Advocates we aim to reveal the realities of homelessness and health inequalities first hand.

Groundswell's Insight and Action work, including this study, has been funded by Trust for London, an independent charitable foundation who aim to tackle poverty and inequality in London.

2.1 Groundswell's Insight

Groundswell's peers have a deep understanding of the realities of homelessness and the barriers that prevent people experiencing homelessness from accessing the healthcare they need – both through their lived experience and through delivering this work. Groundswell is uniquely placed to uncover new insight as our volunteers engage with over 8,000 homeless people in London each year about their health issues.

2.2 Ongoing Data Collection

HHPA volunteers gather data on all client engagements and group sessions delivered which are recorded on Groundswell's Salesforce database. This includes information on health issues faced, health services used, health conditions, attendance rates, barriers faced, length of treatment etc. This data demonstrates the need around oral health.

9% of all HHPA appointments are to dental appointments and around 1% are supporting people to sign up with a local practice. In total that means we delivered over 300 one-to-one engagements with homeless people to support them around their oral health in the last year. Our Peer Advocates have highlighted that they, and their clients face multiple barriers to improving oral health and effectively using dentistry services. Dentistry has one of the highest drop-out rates for any type of appointment our advocates attend. Despite having one-to-one support to attend appointments, 14% of Groundswell's dental appointments don't happen due to a client not turning up or refusing to attend. 8% are cancelled by a service provider at short notice.

2.3 Case Study: Barbara's Oral Health Peer Advocacy

Barbara has been volunteering with Groundswell since summer 2015. She delivers in-reach sessions in one of London's busiest day centres offering support around oral health. Here she explains her role:

"When I go to the Passage, the first thing I do is see the nurse to find out if there are any bookings. Then I spend time in the canteen. It's a lot of face to face contact. Sometimes because people know me they come and ask if I can take them to the dentist or to hospital, otherwise I'll sit and eat with two or three people and tell them what I am doing to help homeless people with their health. Most of the clients are very vulnerable, they may not even think to go to the doctor or dentists, it's a kind of fear or they don't feel comfortable – they might not be well dressed or clean. So they need someone to go with them to give them more confidence. It's different for me because I've been homeless for a long time so I know how people feel and think and I can move through the crowd without judgement.

When I go to the dentist I can talk on behalf of my client, if they want me to. I can listen to what the dentist is doing and why and make sure the client understands. Some people can't express themselves that well and if they went alone they wouldn't understand everything. There are different cases. I had one gentleman who told me he is going to die soon and he wanted to fix his teeth. He wanted to be buried clean so after the first appointment, he was very happy even though it was going to be a long process. He was pleased to be able to explain his problem to the dentist and to know that his teeth were going to be sorted. I know he's finished now so it's good. Some people need an x-ray, some need all their teeth taking out, others need cleaning, some have gum disease. I can go to see the nurse and talk to the client and my line manager to book an appointment with the dentist. Sometimes they need to be registered first so I can bring the paperwork to the dentist then the dentist will give me the appointment time for the client. Emergency cases are difficult, there is a special number to call but it still means booking an appointment and waiting even if they are in pain.

I believe people are concerned about their teeth but because they are on the street or in a hostel they don't have a lot of choice. Some people don't know it's free and health is not the first thing on their mind. It's cold now and if you're on the street it's hard to do anything. But when people get it sorted they are very pleased. I'm thinking of one client from Eretria who had gum disease. I brought him to the dentist in Soho for tests. He was very pleased with the job and he stuck with his appointments on his own after that. It can change your life. If you have good teeth you feel good.

Groundswell has been a good thing for me too, I've learnt a lot. I can say I'm a professional now because of Groundswell. I've been to college and got my NVQ Level 1 in Health and Social Care and I'm going to do Level 2 this year. There aren't a lot of places like Groundswell where you can explore what you want to do, who you want to be."

3. Healthy Mouths Methodology

With the topic of Oral health set in collaboration with Groundswell Homeless Health Peer Advocates, we worked with dental health professionals and academics with a focus on health inequalities to set the topics for exploration.

Design. Groundswell designed a peer-led research project that involved people with experience of homelessness undertaking data collection face-to-face with people who are currently homeless across London. A mixed method

approach was employed that made use of quantitative data through a survey and qualitative data through focus groups. This would make it possible to explore participant's understanding of this health issue and related lifestyle and behaviours as well as understanding experiences from a statistical perspective.

Literature Review. A literature review of current learning around oral health, health inequality and homelessness was undertaken which was used to shape the key areas of exploration for the project. The full literature review is available in the appendix.

Peer Researchers. Groundswell undertook a recruitment process for Peer Researchers. In total 9 co-researchers who had recent experience of homelessness were involved in delivering the project. Training took place over two days and focused on developing a theoretical understanding of research processes as well as practical approaches to interviewing. Learning took place through hands-on activities and was used as an opportunity for developing a survey based on the findings from the focus groups.

Focus Groups. A Groundswell Peer Researcher facilitated a series of seven focus groups in homelessness hostels and day centres to explore in-depth the experiences of service users relating to oral health. Questions in the focus groups were deliberately broad allowing participants to discuss their perceptions, opinions and attitudes towards homelessness and healthcare services. Focus Groups were recorded and then audio recordings were transcribed, coded and analysed.

Survey. In collaboration with Peer Researchers and oral health experts we refined a health audit survey to understand the extent to which oral health issues affected participants and the factors that may be affecting participant's oral health. This also included a series of statements from the focus group transcripts to gauge the extent to which experiences were shared and opinions agreed with. The survey also included a series of validated questions including the Oral Health Impact Profile 14 (OHIP-14)[1] , Modified Dental Anxiety Scale (MDAS)[2] and comparator questions to the Adult Dental Health Survey[3] and a study delivered by Pathways in 2013.[4]

This was delivered by Peer Researchers on a one-to-one basis using tablet computers at homelessness services across London. Informed consent was sought and received from all participants who took part.
Survey responses were inputted into SPSS data analysis software. Preliminary findings were fed back to peer researchers through workshops which directed the analysis of the data. This report was produced based on the study's findings.

Research Participants. Research participants were engaged through homelessness services across London including day centres, hostels and winter night shelters. Research visits were advertised by hostel staff and incentives were offered to participants to say thank you for their time. All participants were either currently homeless or had recent experience of homelessness with the majority of participants (52%) currently living in a hostel and 26% currently street homeless. The participants in this study were representative of the wider homeless population in London (see appendix 1).

In total 262 people with experience of homelessness directly participated in this project. This included seven focus groups involving 47 participants, two in-depth interviews and 204 one-to-one survey interviews, which were conducted by 9 Peer Researchers.

[1] The Oral Health Impact Scale-14 (OHIP-14) is a 14-item inventory which assesses oral health-related quality of life. It is based on a hierarchy of impacts arising from oral disease, ranging in severity.

[2] The Modified Dental Anxiety Scale (MDAS) consists of 5 questions each with a 5 category rating scale, ranging from 'not anxious' to 'extremely anxious'. More information at: http://www.st-andrews.ac.uk/dentalanxiety/

[3] The 2009 Adult Dental Health Survey (ADHS) is the fifth in a series of national dental surveys that have been carried out every decade since 1968. The main purpose of these surveys has been to get a picture of the dental health of the adult population and how this has changed over time. Findings were published in March 2011. Findings available at: http://content.digital.nhs.uk/pubs/dentalsurveyfullreport09

[4] Pathway, "Improving access to dental services for homeless people. Summary of findings from exploratory research", UCLH. (2013)

[5] SPSS (Statistical Package for the Social Sciences) is a software package used for statistical analysis

Current Accomodation Status of Participation

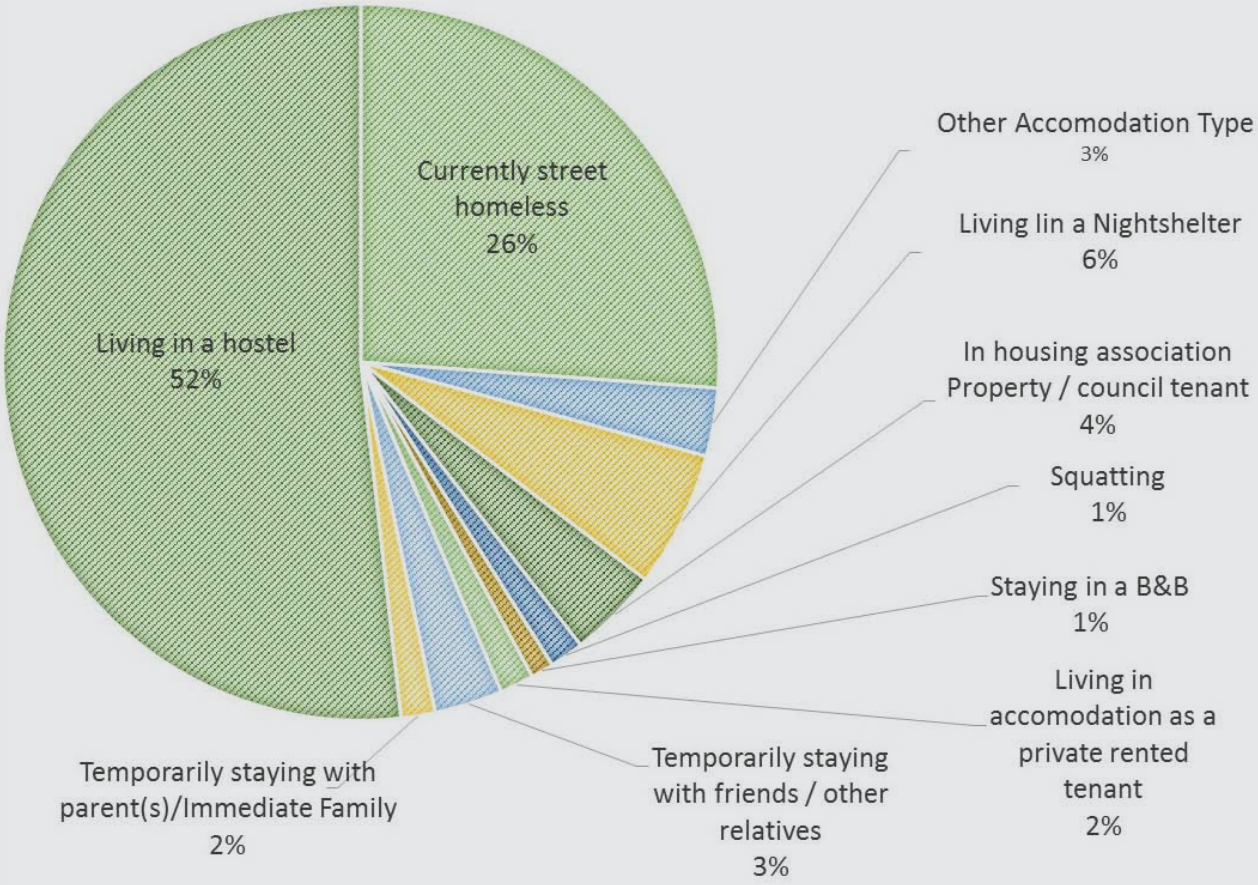

Table 1 Current accommodation status of Participants

4. The Oral Health of Participants

This study revealed that a high proportion of participants had significant issues with their oral health. Not only were these issues widespread but our findings reveal that they are having a significant impact on the quality of life of participants. For example, many participants are in considerable pain on a daily basis and issues with oral health are having a wide ranging impact on individuals' ability to live a fulfilled life.

4.1 Oral Health Issues

Oral ill health and disease were widespread among participants. Almost all participants (90%) reported that they had an issue with their mouth since they first became homeless. Particularly common were issues with bleeding gums (56%), holes in teeth (46%), bad breath (46%) and sensitive teeth (46%). We also asked participants if a medical professional had told them they had particular conditions since they have been homeless, again high rates were present with 28% reporting they had gum disease and 24% having had a dental abscess. 41% of participants who reported a dental health issue told us that they had only had issues with their teeth since they had become homeless. However, we also identified that there was a lack of knowledge around the causes and consequences of oral health problems for example, 37% told us that they were unaware of the warning signs of mouth cancer.

Oral Health Issues that participants reported experiencing since they have been homeless			
Whether self-reported or informed by a medical professional.	Type of Issue	Frequency	Percentage
Self-Reported Issue	Pain from Mouth Generally	122	60%
	Bleeding Gums	115	56%
	Holes in Teeth	93	46%
	Sensitive Teeth	94	46%
	Bad Breath	92	45%
	Loose Teeth	89	44%
	Pain from Teeth (except Wisdom Teeth)	84	41%
	Pain from Wisdom Teeth	67	33%
	Swollen Gums	65	32%
Diagnosed by a medical professional	Gum Disease	58	28%
	A Dental Abscess	48	24%
	HPV	2	1%
	Mouth Cancer	1	1%

Table 2 Oral health issues among Participants

4.2 Missing Teeth

70% of participants reported that they have lost teeth since they have been homeless and 7% of participants reported that they had no teeth at all. This compares to 6% of the general population who have no teeth (Adult Dental Health Survey 2009), however, our cohort was significantly younger overall than the general population. Of participants in the Adult Dental Health Survey who reported to not be dentate, 92% were over the age of 65[6], this compares to 93% of participants in the healthy mouths study being under the age of 65 with an average age of 58. One participant who reported to have lost all his teeth since he was homeless was only 27. 31% of participants reported that they had lost more than five teeth since they had been homeless which is higher than the figure revealed in the Pathway research where 19% had lost more than five teeth.

"I used to forget about my teeth and they would get really bad to a point where I had to get all my back ones top and bottom, taken out. And I got these ones taken out. And some work done there. But now… I am always on the lookout for NHS practices because … its paramount, isn't it? I like to smile…because my teeth were so bad at one point where I couldn't smile without raising my hand. I was embarrassed and whatnot. I'd smile and instantly like hahaha… laugh, but laugh like this, you know. [Participant places hand over mouth]" – Focus Group Participant.

How teeth were lost. Alarmingly, almost as many participants had had teeth 'fall out on their own' as had participants who had had teeth removed by a medical professional (35%). There were also a large proportion of participants who had lost teeth following acts of violence (17%) or accidents (12%). However, our findings reveal the lengths that some participants have taken to deal with dental issues that they face with 15% of participants having pulled out their own teeth. As one participant explains:

"Yeah I have taken my tooth out absolutely. And it's to avoid the needle, same thing. And so it's going to an appointment, it's like no. But the reason I am saying this and I know should go and talk to them, but I haven't. It's something I am looking into doing."- Focus Group Participant

[6] Adult Dental Health Survey 2009, Theme 1: Oral health and Functioning, p. 25.

Dentures & False Teeth. 27% of participants reported that they had had dentures or false teeth fitted in the past and 19% had had a set made since they had been homeless. Among those who had had dentures and rough slept it was common for people to have lost their teeth (45%). Further to this 41% had lost their dentures when they were high or drunk and 18% had had their dentures stolen. No participants reported that they had had dental implants, however, we asked all participants in the study whether if they had the choice they would have dental implants. 71% of all survey participants told us that they would have dental implants if they were given the choice.

The ways in which participants have lost teeth since they have been homeless.		
How teeth were lost	Frequency	Percentage
Participant 'had a tooth removed by a medical professional (like a dentist)'	72	35%
Participant's tooth fell out 'on its own'	69	34%
Participant has 'been hit and a tooth fell out'	35	17%
Participant 'pulled out own tooth'	31	15%
Participant's tooth 'fell out after an accident'	24	12%
Participant 'had a tooth pulled out by a friend'	6	3%

Table 3 The ways in which participants have lost teeth

4.3 Pain

60% of participants told us that they had experienced pain from their mouths since they had been homeless. 30% told us that they are currently experiencing pain from their mouths. Almost all of these reported that the current pain they were experiencing was related to their teeth.

"I was in a lot of pain when a wisdom tooth didn't come through properly and it started like rubbing away and they had to pull it out and stuff. Yeah it was really painful. I was in pain for months and months. Some days it weren't there, but a lot of the times it was there." – Focus Group Participant

We asked all participants who were currently experiencing pain to rate the level of pain they are facing using a 0-10 Numeric Pain rating scale[7] where 0 represents 'no pain', 5 equals 'moderate pain' and 10 'worst possible pain'. Three quarters (75%) reported that the pain they were currently experiencing was rated as a 5 or more.

For participants who had experienced pain from their mouths since they had been homeless, 30% were experiencing pain on a daily basis. Perhaps with this level of pain in mind it is unsurprising that a high number of participants had turned to alcohol and illicit substances as a coping strategy to deal with pain. 27% of participants have used alcohol to help deal with dental pain and 28% have used drugs. As this focus group participant explains:

Groundswell: *"While you are going through toothache. Did the pain affect your behaviour? Has it made you do things that you wouldn't normally do?"*
Focus Group Participant: *"Yes. Obviously, especially if you are using heroin it's a great pain killer. It doesn't work totally, but it helps.*

[7] Scale taken from Pain: Clinical Manual, McCaffery M, et al, P. 16, Copyright 1999, Elsevier

How often participants who experience pain in their mouth have a sensation of pain.		
	Frequency	Percentage
Every day	35	30%
Most days in a week	19	16%
Few times per month	26	22%
Less than once a month	20	17%
Not often (Less than once a year)	17	15%
Participant 'had a tooth pulled out by a friend'	6	3%
	117	

Table 4 Frequency that participants experience pain in their mouths

4.4 Impact on Quality of Life

Poor oral health is having a significant impact on the lives of participants in this study. Not only are problems impacting on participants' confidence and wellbeing but it is having a significant impact on their abilities to live their lives, damaging social interaction and in an alarming number of cases preventing individual's ability to physically function.

When comparing our findings to the Adult Dental Health Survey (2009) it reveals how participants in our study were in significant disadvantage compared to the general population. Just under two-fifths of all adults participating in the ADHS 2009 (39 per cent) experienced one or more of the problems included in the OHIP-14 occasionally or more often in the previous 12 months, however, among healthy mouths participants this was 87%. The average number of problems experienced by adults in the ADHS, including those who experienced no problems, was 1.2 compared to 7.9 in this study. The average total OHIP score for ADHS was 17.4 whereas in this study the figure was 21.4. This means that among the participants in the Healthy Mouths Study, negative impacts of oral health problems are widespread, and for a significant number they are having a damaging effect on people's quality of life.

The Oral Health Impact Profile

The Oral Health Impact Profile (also known as the OHIP-14 questionnaire) asks about the frequency of 14 functional and psychosocial impacts that people have experienced in the previous year as a result of problems with their teeth, mouth or dentures. It is based on a hierarchy of impacts arising from oral disease, ranging in severity, and includes questions on functional limitation (e.g. pronouncing words), physical pain (e.g. painful aching mouth), psychological discomfort (e.g. feeling self-conscious), physical disability (e.g. interrupted meals), psychological disability (e.g. feeling embarrassed), social disability (e.g. irritable with others) and handicap (e.g. totally unable to function).

OHIP Responses overall – Comparison between Healthy Mouths and Adult Dental Health Survey		
	Healthy Mouths	ADHS
At least one problem reported (%)	87	39
Mean number of problems	7.9	1.2
Mean total OHIP score	21.4	17.4

Table 5 Comparative responses to OHIP-14 scale

Confidence. Commonly in focus groups participants spoke of the lack of confidence and sense of embarrassment that they felt due to issues with their teeth. For 63% of survey participants they had felt self-conscious at least occasionally in the past year and for 19% this occurred very often (compared to 4% in the general population).

"[Poor oral heath affects] Self-confidence with me like. Smiling. When you are with other people, keeping your head up. Impact on what you say and what you don't say, how you say it, what you say. It changes who you are. I just want to try and get over how important it is to look after your teeth, to eat the right thing most probably you know. When your teeth start dropping, your confidence goes doesn't it. There is nothing worse. I've found that's a worst pain than toothache." – Focus Group Participant

Handicapped by Oral Disease. In the most extreme cases problems with oral health can have a significant impact on an individual's ability to function in everyday life. In a study based on the 1998 Adult Dental Health Survey there is exploration of how the final indicator of the OHIP-14 which suggests that some people can become handicapped by their oral condition.[8] Use of the findings on how many people occasionally felt totally unable to cope as a result of their oral condition was to indicate a level of severity of impact that oral conditions can have on some people. The study highlights that this potentially has further reaching considerations such as an individual's ability to do work and even the extent that they might put pressure on mental health services and class this group as handicapped due to their oral health. ADHS 2009 data suggests 1% of the population are handicapped on this measure. Amongst healthy mouths participants, 39% meet this threshold for being considered handicapped by their oral health. Consequently,

As one participant explains, it was sorting his oral health issues that allowed him to move on in his life:

"I think it was definitely getting the dentistry done that kind of made me want to go and apply for jobs, because then I would apply for a job and if you've got dodgy teeth and you think about the interview –that's all you think about, before you've even filled out the application form. You just think about the employers and you know … you are supposed to walk in and smile… they must think I am a psycho. So I seriously think when I got my teeth done it helped my self-esteem and whatnot. Not that it's up to great shakes now, but it's alright, it's getting there." - Focus Group Participant

[8] Nuttall, M.N., Steele, J.G., Pine, C.M., White, D., and Pitts, N.B., "Adult dental health survey: The impact of oral health on people in the UK in 1998", British Dental Journal 190, 121 - 126 (2001).

Frequency of reported problems related to oral conditions in the preceding 12 months - Comparison to all adults in ADHS 2009								
Type of problem[1]	Frequency of problem							
	Occasionally		Fairly Often		Very Often		Percentage experiencing either problem occasionally or more often	
	Healthy Mouths	ADHS	Healthy Mouths	ADHS	Health Mouths	ADHS	Healthy Mouths	ADHS
Functional limitation								
had trouble pronouncing words %	14	3	21	1	12	0	} 59	} 7
felt their sense of taste has worsened %	13	2	22	1	10	0		
Physical pain								
had a painful aching in their mouth %	26	16	21	4	11	2	} 74	} 30
had to interrupt meals %	21	16	24	4	18	2		
Psychological discomfort								
have been self-conscious %	17	9	27	4	19	4	} 69	} 19
felt tense %	20	6	25	2	11	1		
Psychological disability								
found it difficult to relax %	18	3	16	1	15	0	} 56	} 8
have been a bit embarrassed %	15	4	20	1	12	1		
Social disability								
have been irritable with other people %	14	4	16	1	10	0	} 69	} 14
had difficulty doing usual jobs %	14	2	17	0	7	0		
Handicap								
felt that life in general was less satisfying %	22	4	21	1	12	1	} 57	} 5
have been totally unable to function %	14	1	15	0	7	0		

[1] The statements and their groupings are derived from the Oral Health Impact Profile (OHIP-14)

Table 6 OHIP-14 Frequency comparing Healthy Mouths Study and ADHS 2009

4.5 Case Study: Archie's Dentures

Archie has a long history of sleeping rough and neglected his teeth for many years. He has had to have all of his teeth removed but has not managed to get on with wearing dentures. He tells us how this has resulted in his diet suffering:

"My teeth were all rotting and were in bits. Different dentists have taken them out. Because they were rotting, just rotting, all broken, all-black, I had to get them all taken out. I have been to a few dentists to get dentures but I can't keep them in long."

"I've gone 15 years without my false teeth. I can't keep the dentures that were fitted for me in my mouth. Anything hard against my gums I would get blood blisters and they were rubbing against my gums."
"I had another set of dentures made recently. They are better. Made in [hospital] by the students there. I have one set of false teeth top and bottom but I have not used them in three or four months. I keep gagging and I can't stop gagging [when I wear them]."

"I can't eat certain foods, hard foods, cakes et cetera. All I eat is rice and peas and carrots. Custard. Blood blisters are the problem now. I went to hospital the other day and I ate a banana when I had a blood blister and then I busted it with my tongue and I sucked all the poison out."

5. Taking Care of Oral Health

The realities of homelessness are a driving factor behind the poor oral health of participants in this study. This was widely acknowledged by participants as 74% agreed or strongly agreed that homelessness had had a negative impact on their teeth. As part of the survey we explored how well participants were taking care of their teeth and what motivated people to maintain good oral health. Our findings reveal that participants felt strongly about the importance of good oral health. For example, 85% of participants either agreed or strongly agreed with the statement 'My teeth are important to me' and 68% of participants reported that they felt 'confident to look after their teeth'. However, as we will highlight, in practice many were not taking steps that would be necessary for ongoing oral health.

5.1 Taking Care of Teeth

Cleaning Teeth. The oral health foundation recommends that a person clean their teeth at least twice a day with a fluoride toothpaste; last thing at night and at least one other time during the day. While many participants in this study are reaching this level there are a larger proportion that are not. 35% of participants told us they clean their teeth at least twice a day and 51% of participants said their toothpaste contained fluoride (32% were unsure). However, overall the participants in this study were likely to brush their teeth far less frequently than the general population where 75% brush their teeth twice or more per day. On the other end of the scale, a far larger proportion (29%) of participants in this study brushed their teeth less than once a week or never (compared to 3% of general population).

Reported frequency of cleaning teeth by dentate adults for Healthy Mouths and ADHS 2009.				
	Reported frequency of tooth cleaning			
	Twice a day or more often	Once a day	Less than once a day	Never
ADHS 2009 %	75	23	2	1
Healthy Mouths %	35	35	20	9

Table 7 Reported frequency of cleaning teeth

We spoke to participants about this topic in the focus groups and commonly people responded that while there were practical difficulties (like finding a source of water), factors that had a bigger impact were due to competing priorities taking prevalence or lacking motivation to take care of your teeth. As one focus group participant explains:

"It was drummed into me from an early age. Something stayed with me and I mean there was one point where I was brushing my teeth after every meal. But then obviously because of my situation and circumstances, I let my teeth get out of hand….. And sometimes … sometimes other things take precedence, rather than teeth. That's the last thing you think about. Because you have got other things going on in your life that you need to do." – Focus Group Participant

Dental Hygiene Products. A relatively high proportion of participants currently have a tooth brush and tooth paste with 86% told us that they currently own them. While this is a high proportion, given access to the tools that they need more participants might be taking better care of their teeth. Interestingly with dental hygiene products other than a standard toothbrush and tooth paste there are distinct variations in usage in the general population. For example, 46% of participants told us they use mouthwash to clean their teeth and 10% use sugar fee gum. This compares to 31% and 3% respectively in the general population. However, Electric toothbrush (26%:5%) usage and dental floss (21%:12%) is significantly lower than in the general population. In discussion with Groundswell Peer Advocates this was explained by the way that mouth wash and gum are tools to keep your teeth clean while moving and without the need for additional items, however, electric tooth brushes need recharging and floss needs a mirror to use effectively.

5.2 Lifestyle & Diet

Diet. Participants commonly told us about how their diet had been affected by being homeless with 73% of survey recipients reporting that they felt their diet had become less healthy since they have been homeless. Two key reasons for this were given in focus groups, one that available food and facilities to make food are often restricted. For example, for people living in temporary accommodation, having the money to purchase healthy foods and limited cooking facilities were mentioned as issues. Whereas in day centres there is often a limited menu and sugary items on offer. As one participant explains:

"The food on offer in day centres is not the healthiest. I understand that they feed us what is available. The meals are ok but there is always cakes and biscuits. More fruit would be nice." – Focus Group Participant
However, there was also a matter of fact understanding that sugar was something that could help people to get through the day and was a cheap effective source of energy. Sugary cups of tea provide an added 'blanket' when out in the cold. As one focus group participant explains:

"You've got to have something to get you through the day. For some people it's having a drink. For a lot of us it's sugar and fags. Cups of tea with sugar and cakes give you a boost. Especially when I was sleeping out I was always just trying to keep myself going." – Focus Group Participant

Consumption of Sugar. The evidence of frequent sugar consumption having a negative impact on dental care is wide ranging and clear[9]. We asked participants how often they were eating sugary food that may be damaging to their teeth. Again, questions from the Adult Dental Health survey were in order to categorise participants into high or low sugar users and to offer a comparator to the general population answers given to the three questions were used to derive composite variables [10]. Among participants in this study a larger proportion could be classified as high sugar users[11] (60%) than the general population (50%) with the most common items eaten at high levels being cakes, biscuits, puddings or pastries with 42% eating these six or more times a week.

High levels of sugar were also consumed by participants by drinking hot drinks with 74% having at least one sugar on a daily basis. 28% of participants reported that they drank more than three sugars in there hot drinks. When frequency of hot drinks is taken into account, 63% of participants were drinking more than 3 hot drinks a day (29% were drinking 6 or more per day) the levels of sugar people were consuming were at levels that were damaging to oral health and physical health more widely.

Smoking Tobacco. Similarly to Groundswell's Room-to-Breathe study we found high rates of smoking among Research Participants. 78% of participants reported that they were current smokers (compared to 85% in the Room-to-Breathe study). This is significantly higher than the general population where 17% are current tobacco smokers. Of those who reported that they were not current smokers, over half had been smokers in the past. Smoking is linked to a wide variety of oral health problems including staining of teeth, bad breath, impaired taste, tartar (hardened dental plaque), failure of dental implants, oral cancer, oral mucosal disease, tooth decay and slower wound healing. [14]

Number of spoonsful of sugar consumed by participants in hot drinks		
	Frequency	Percent
Does not drink hot drinks with sugar daily	53	26
1	22	11
2	73	36
3-5	51	25
6 or more	5	3
Total	204	100

Table 8 Number of sugars participants have in hot drinks

[9] WHO (2003) Diet, *nutrition and the prevention of dental diseases,* Public Health Nutrition: 7(1A),201–226

[10] The three questions employed in the study originate from the Health Survey for England to measure the average frequency (ranging from rarely/never to six or more times a week) with which a respondent consumed: 1. Cakes - cakes, biscuits, puddings or pastries; 2. Sweets - sweets or chocolates; and 3. Fizzy drinks - fizzy drinks, fruit juice, or soft drinks like squash (excluding diet or sugar-free drinks).

[11] The Adult Dental Health Survey defines high sugar users as anyone who has cakes, biscuits, puddings or pastries, sweets or chocolate or fizzy drinks 6 or more times a week.

[12] Groundswell's Room-to-Breathe study employed Peer Research to explore the respiratory health of people experiencing homelessness in London. Available at: *http://groundswell.org.uk/room-to-breathe/*

[13] Public Health England, (2015), "Local Tobacco Control Profiles for England", Available at: *www.tobaccoprofiles.info*

[14] September 2016 Tobacco and Oral Health Ash research report

5.3 Impact of Support Needs on Oral Health

Mental Ill Health. Mental ill health can have a large impact on an individual's ability to care for themselves physically.[15] Rates of mental ill health were high among our participants with 51% of participants telling us that they felt that they had issues with their mental health and 49% reporting that they have a diagnosed mental health condition. We asked survey participants whether they felt that issues with their mental health affected how often they brushed their teeth, 77% either agreed or strongly agreed that they brushed their teeth less often when they were having difficulties.

"I could say for myself, I have spiralling bouts of depression. And when they come back around that is one the first things to go: my personal hygiene as a rule. But certainly brushing teeth. I mean I just don't think about doing it. Until I smile at myself in the mirror and realise oh my god." – Focus Group Participant

5.4 Drug Usage

Among participants, 33% reported to have experienced drug misuse issues and just under half (48%) told us that they were current or past drug users. Using drugs, particularly when smoked, can have a damaging effect on oral health, for example, Cannabis use increases the risk of decay and gum disease [16].

Cocaine and Crack Cocaine. Cocaine in its smoked form (crack) causes oral sores which can contribute to the spreading of blood born infections. [17] Cocaine use can also lead to palatal perforation (damage to the roof of the mouth) and when rubbed into the gums can cause decay. In addition, cocaine's anaesthetic properties make dental procedures dangerous for those who have recently used.[18] Concern for this issue was held by a large number of participants who smoked Crack currently (20% of all participants) or in the past (12%) and participants in the survey were aware of the effect it could have on their teeth. For example 45% of crack users 'agreed' that 'using crack has damaged my teeth' and 29% 'strongly agreed'. As one focus group participant explained:

"My dentist is in Hounslow and she keeps on pulling my teeth out. And I don't get on very well with her. She says they are beyond repair. I messed them up myself from years of smoking crack."- Focus Group Participant

Heroin and Methadone. Heroin use is associated with loss of teeth, decay and inflammatory diseases and methadone usually contains a high sugar content increasing the risks of dental damage. Although sugar free preparations of methadone can significantly reduce this danger[19] both sugary and non-sugar preparations have a sticky consistency and acidic properties which can potentially lead to dental erosion. Perhaps more significantly, methadone has been shown to induce a preference for sweet-tasting food[20]. A particular concern was raised in focus groups around the impact of using methadone on teeth. 20% of participants had used methadone at some point in their lives (14% current users). We asked methadone users whether they knew if the methadone they used was sugar free. 48% told us it was sugar free and 29% that it contained sugar (24% were unsure). Despite the relatively high levels of sugar free methadone usage, 69% of participants who used methadone reported that they were concerned that methadone was 'rotting their teeth'.

[15] Salovey, P., Rothman, A., Detweiler, J., and Steward, W., "Emotional states and physical health.", American Psychologist, Vol 55(1), Jan 2000, 110-121.

[16] General and oral health implications of cannabis use Authors CM Cho, R. Hirsch, S. Johnstone June 2005 Australian dental journal.

[17] Crack Cocaine Smoking and Oral Sores in Three Inner-City Neighborhoods Faruque, Sairus*†; Edlin, Brian R.*; McCoy, Clyde B.‡; Word, Carl O.§; Larsen, Sandra A.*; Schmid, D. Scott*; Von Bargen, Jennifer C.*; Serrano, Yolanda1†Journal of Acquired Immune Deficiency Syndromes & Human Retrovirology: September 1996 - Volume 13 - Issue 1 - pp 87-92

[18] Cocaine and oral health H. S. Brand1, S. Gonggrijp2 & C. J. Blanksma3 British Dental Journal, 2008.

[19] Nathwani NS, Gallagher JE (2008). Methadone: dental risks and preventive action. Dent Update, 35 (8): 542–4, 547–8.

[20] Mysels DJ, Sullivan MA. The relationship between opioid and sugar intake: Review of evidence and clinical applications. Journal of Opioid Management. 2010;6(6):445-452.

Alcohol Usage. 37% of participants in the survey reported that they had experienced alcohol misuse issues. Among participants, 24% reported that they drank alcohol every day and 11% at least every other day. 8% also reported that they used to drink but are now abstinent. Alcohol usage is linked to periodontitis (gum disease)[21] and tooth wear[22] . In addition, chronic prolonged use when combined with tobacco smoking increases the risk of oral cancer by 15 times.[23]

60% of participants who used alcohol told us that they agreed or strongly agreed that alcohol was damaging their teeth.

Behavioural impact of multiple exclusions. While the physical impact of drug and alcohol misuse upon oral health is clear, similarly to mental health, drug and alcohol misuse can have an impact on self-care of oral and wider physical health. As people move into homelessness a process of 'deconstruction'[24] can take place where self-neglect of the mouth, often driven by drug misuse and decline in mental health can lead to damage to oral health. In this sense, the physical impacts explored above around mental health and drug and alcohol misuse are often compounded by declining self-care.

"I feel it's a lot to do with your self-esteem. Self-esteem and self-respect isn't it like? Back then [when rough sleeping] I didn't like myself very much, I didn't care for myself so... I didn't really care that I didn't have a white smile." – Focus Group Participant

6. Access to Dentistry

Access to dentistry was a significant issue for participants in this study. Not only did participants face difficulties in 'signing-up', but attendance at the dentist for ongoing treatment and check-ups was low. By not making effective use of dental practices many participants were dependent on emergency care including accident and emergency units.

6.I Signing-up with a dentist

'Registration' with a dentist. Patients do not have to 'register' with a dentist like they have to with a GP Practice as dentists are not bound to a catchment area[25]. However, once a patient has found a private or NHS Dentist they will usually have to complete a registration form to add their details to the practices' patient database. For this reason, and because of common conceptions around 'registering with a dentist' we still asked participants whether they were registered with a dentist. 36% of participants told us that they were currently registered with a dentist. For those that were registered, we asked what their experience of getting registered was like, 82% of participants described the process as 'easy'. Pathway's research found a higher proportion of participants registered with a dentist (44%) but a lower proportion (69%) had found the process easy.[26]

"Yeah I am registered with dentist – but I didn't register. Somebody here did it for me. I didn't want to go. I don't like the dentist either. But someone just registered for me. And someone actually went with me, the first two times. So they sort of pulled me along. So that was good because it sort of pushed me into it." – Focus Group Participant

[21] Amaral Cda S, Luiz R R, Leão A T. The relationship between alcohol dependence and periodontal disease. J Periodontol 2008; 79: 993–998.
[22] Robb N D, Smith B G. Prevalence of pathological tooth wear in patients with chronic alcoholism. Br Dent J 1990; 169: 367–369.
[23] Oral Cancer Foundation, 2001–2010.
[24] Coles E., Freeman R., (2015), "Exploring the oral health experiences of homeless people: a deconstruction–reconstruction formulation." Community Dentistry and Oral Epidemiology, (44): 53–63.
[25] See NHS Choices guidance on How to find an NHS Dentist. Available at: http://www.nhs.uk/NHSEngland/_AboutNHS services/dentit/Pages/find-an-NHS-dentist.aspx
[26] Pathway, "Improving access to dental services for homeless people. Summary of findings from exploratory research", UCLH. (2013)

Difficulties Registering. We asked all participants whether at any point since they had been homeless they had attempted to register with a dentist. 31% had made an unsuccessful attempt to register with a dentist with the main reason being that they were told they were not entitled to NHS treatment (33%) or the practice list was full or there was a waiting list (24%).

Reason for unsuccessful attempt to sign-up with a dentist since participants have been homeless.		
	Frequency	Percent
Could not afford to pay NHS charges/dental charges	2	3%
Did not trust dentists	6	10%
Language barrier	3	5%
No reason given	8	13%
Other problems got in the way of treatment	8	13%
Told practice list was full or there was a waiting list	15	24%
Told they were not entitled to NHS treatment	21	33%
Total	63	

Table 9 Reasons for unsuccessful attempts to sign-up with dental practices

One focus group participant explained his experiences of attempting to sign up with a dentist:
"The last two dentists I tried to apply for which is called [Name of dental practices], they refused me and said they were taking nobody else on. So I haven't been the dentist for about five or six years." – Focus Group Participant.

This was echoed by another focus group participant who shared his perspectives:
"So it's really hard to register a dentist now. Especially if you are on benefits. A lot of them won't accept you. Their excuse is… their books are full. That is the general response, they've got their quotas. Because you are on benefits and you are an NHS patient, most dentists have turned to private now, because they don't want to wait for six months to get paid for the work that they do on an NHS patient." – Focus Group Participant

No attempt to sign-up. 36% of survey participants had not made an attempt to register with a dentist since they have been homeless. The most common reason for not attempting to sign up that was given was that participants were not sure if they were entitled to NHS treatment (22%) and fear or a negative previous experience (15%) or participants reported they would only seek treatment in an emergency (10%).

6.2 Use of Dental Care

Attending the dentist. 50% of participants reported that they had seen a dentist since they had been unstably housed. However, for half of participants who had seen a dentist, they had seen a dentist at Crisis at Christmas which is only available once each year. While this demonstrates the importance of services like Crisis at Christmas which bring medical support to homeless people, it does not represent accessibility of dental services more widely. We asked participants when they last went to the dentist. 23% of participants had been to the dentist (at a dental practice) in the last 6 months and a further 16% they had been in the last 6 months to a year. However, a quarter of participants had not been to the dentist for over 5 years. When compared to the Adult Dental Health Survey, it reveals that among people who had attended the dentist in their lives before, our participants were far less likely to have been to a dentist recently.

All participants were asked if there was anything that prevented them from attending the dentist, common factors were cost (23%), 'fear' (24%) and previous negative experiences of treatment (12%). Comparing this to Pathway's research which also asked those who were not registered with a dentist what the reasons were. Only one participant in their research gave cost as a reason, however, believing they were not entitled to treatment (13%) and previous negative experiences and fear (7%) were found to be common barriers to registering with a dentist along with other higher priorities (9%) and lack of perceived need (9%).[27]

Period since participants last went to the dentist		
Period of Time	Healthy Mouths	ADHS 2009
In the last 6 months	23%	56%
6 months to a year ago	16%	17%
1-2 years ago	17%	9%
2-3 years ago	12%	5%
3-5 years ago	7%	4%
5-10 years ago	12%	5%
Over 10 years ago	13%	4%
Total	100%	100%

Table 10 Period since participants last went to the dentist

Hygienists. Treatment by a hygienist is only available on the NHS when it is clinically necessary. However, hygienists often only offer open access treatment on a private basis, and therefore the cost of the treatment is not covered within the NHS dental treatment band system. Among participants, 26% had been advised by a dentist to see a hygienist and two thirds of those who were advised actually saw a hygienist. In total, 12% of participants overall had seen a hygienist since they had been homeless. In focus groups some participants spoke about the difficulty they had had with getting their teeth cleaned professionally and they felt that dentists could be more proactive in cleaning their teeth. We checked this with survey participants and a relatively high number (39%) who had seen a dentist reported that they had asked to have their teeth cleaned. Only a quarter of these had had their teeth cleaned by a hygienist or other dental professional. As one participant explains:

"I've always looked after my teeth, I worked in a corporate environment and it was really important for me to have a good smile. I used to see the hygienist regularly to have my teeth cleaned as it gave me the confidence to get on in my work. When I lost my job I no longer had the money to see the hygienist and my teeth have been falling apart ever since. When I became homeless I didn't want to stop caring for my teeth but I didn't have the money to look after them. I had a job interview once and I went to the dentist to have a check-up and I asked him if he could clean my teeth. He just said no. He said it's not his job. You need to see a hygienist. It would have made a real difference to my confidence to have had my teeth cleaned. My teeth are falling apart. I've got receding gums which bleed whenever I brush them." – Research Participant

[27] Pathway, "Improving access to dental services for homeless people. Summary of findings from exploratory research", UCLH. (2013)

Emergency Dental Care.

Among participants there were high levels of need for emergency dental treatment. 38% of participants told us that they have needed emergency dental treatment since they have been homeless and 31% have accessed Emergency Dental treatment. However, the type of emergency care that people have used was often more general emergency medical care, for example 27% told us that they have been to A&E when they have had dental problems. This demonstrates a lack of access to preventative dental care, but also shows a severity of condition that drove participants to attend emergency treatment in this way. It is important to also note that the treatment options may be less extensive in an emergency setting.

6.3 Missed Appointments

Groundswell Peer Advocates have had difficulties in the past with signing up clients from particular hostels with some dental practices. In these cases the explanation is often given that residents have a poor rate of attendance for dental appointments. Both private and NHS dentists are self-employed and when people don't show up to appointments dentists go unpaid but still incur costs. An NHS practice can lose significant amounts of money due to undelivered treatment under the NHS contract. In the Smile4Life study[28] they highlight this issue and give examples of homeless people being fined for not attending appointments[29]. We found examples of people having difficulty signing up with dentists for this reason in focus groups particularly in one hostel:

"I had a problem with my tooth and I spoke to a few of the residents in my hostel. And I said 'where is the closest dentist?' There is a dentist like four doors down from our hostel. I spoke to a few people and they said no they don't take people on from this hostel, we've got a bad name. And a lot of people said the same thing. I went in there and they just wouldn't take me." – Focus Group Participant

6.4 Access to Dental Care in Homelessness Services

Day Centres. 80% of participants have used day centres at some point in their lives and 57% of all participants were current users of day centres. Day Centres play a crucial role in supporting and maintaining people's health and wellbeing while they are experiencing homelessness. 62% of participants who used day centres told us that they brushed their teeth at day centres. Recognising this need day centres often provide tooth brushes and tooth paste to their clients (72% of day centre users told us that their day centre provided this). By bringing dental treatment into day centres it can also greatly increase the ease of accessing care, 14% of day centre users told us that a dentist attended their day centre.

Mobile Services. Mobile services were universally seen as a key tool in treating people's oral health. 14% of participants reported to have used a mobile dentist since they had been homeless, with the mobile dental units playing an important role in providing treatment and signposting people towards using building based dental services. A quarter (26%) of participants told us they had seen a Crisis at Christmas dentist since they had been homeless.

"I've used a mobile dentist before. This big white van arrives with your dentist in there. What other services can we ask for. They come to us as opposed to us going to them." – Focus Group Participant

Rough Sleeping. 71% of participants had experience of sleeping rough. Of these 46% had slept rough for less than a year. However, over a quarter (26%) told us that they had spent a total time of over 5 years sleeping rough. In focus groups we spoke to participants on how rough sleeping can impact on oral health, with one of the key issues highlighted being that it can be difficult to find a place to brush your teeth. Over half (55%) of survey participants who had slept rough agreed or strongly agreed with this statement. However, having running water is not essential to effectively brushing teeth and this information should be communicated to people experiencing homelessness.

[28] The oral health of homeless people across Scotland. Smile4life 2008-2009 (page 87).

[29] The Smile4Life research was conducted in Scotland where missed appointment fines are permitted, however in England NHS dentists are not allowed to charge missed appointment fines.

Hostels. 72% of participants had experience of living in a hostel, with just over half of participants currently living in hostels (55%). Hostel staff play a key role in supporting people to address their health needs, and we found that almost half (45%) had been told by staff in their current or last hostel where their local dentist is. 38% had been offered support by staff to go to a dentist. Of those who had lived in hostels, 57% told us that their hostel did not provide a toothbrush or toothpaste at all, 29% told us they were given them when they moved in only and only 16% reported that they were available whenever they needed them. Only 7% of participants who live in hostels told us that they had regular visits from a dental health professional to their hostel. Of these only half (5 people) had actually seen the dental health professional.

Support to attend a dentist. 70% of participants told us that they felt confident to go to a dentist on their own. However, for the 30% who did not feel confident or were unsure, there is a need for additional support to attend. For example, 10% of the participants we spoke to told us that they had been supported by a Peer Advocate (like Groundswell) to go to the dentist. 52% of participants told us that they would be happier to go to a dentist if they had someone to come with them.

6.5 Case Study: Garry's Visit to the dentist

Garry is currently living in a hostel in central London. He has not been to the dentist for 19 years which he blames on past experiences he has found traumatic. Using the MDAS scale Garry would be classified as dental phobic and he has had a number of dental issues that he has taken radical steps to manage himself. However, with support from his key worker he has managed to get dental treatment. As he explains:

"The last time I went to the dentist was in 1999, over 18 years ago and it that was the one that knackered me and I'm terrified [of the dentist]. Since then I would take my own teeth out. I buy these toffees to chew and they [teeth] kept getting looser and looser then I just flick it out. I've only got four teeth left now. It's not so bad. I've pulled my own teeth out before, I just tie the string to the door handle. Bam and its out."

"My key worker was really good, she got me to [Homelessness Health Service] to get [my teeth] x-rayed. And I was fine with them checking them out [pointing to his teeth] then they made me an appointment to have some teeth out. She found out that my appointment was on her day off and the hostel management told her that she had to get someone else to take me but she came in especially to take me. So I went there."

"If [staff member] hadn't come in on her day off I wouldn't have got to my appointment. I was going to call it off the day before. And then she collared me and said don't you dare cancel the appointment because I'm coming in to take you now."

"I was fine in the reception. Not worried about it, then I started to walk in to the room and I said 'crickey' my leg started is starting to get heavy. Then I sat down and they had a look in my mouth and everything. [Staff member] could see I was getting flustered and in the end I just went NO!! I stopped a procedure when I had gone through 50% of the works."

"They made a referral [to the sedation clinic] but they don't know if it will be possible for me to be put out. I am on medication because of a heart attack. I am OK with needles but when it come to my mouth I'm not. It's just my mouth. If [staff member] had not come in on her day off I would not have started treatment. I'm not really used to people caring about me and I'm quite happy if they [teeth] all fall out."

7. Experiences of Dental Treatment

For participants who had accessed dental services, there was generally a high level of regard for dentists. However, participants often felt that by being homeless automatically meant that behaviours towards them and the types of treatment on offer were at a lesser level than the general population. With this in mind it highlights just how important it is for clear communications and demonstrating dignity and respect to homeless patients.

7.1 Trust in Dentists

We asked a series of questions throughout the survey based on statements used from focus group transcripts to gauge opinion on dentists among participants. Overall participants demonstrated a high regard for dentists and the work they do. For example, 89% of participants agreed or strongly agreed with the statement 'Dentists are there to help", and only 23% agreed or strongly greed with the statement "Dentists are only in it for the money". While not a direct comparator, 93% of the general population report to have confidence and trust in dentists (ADHS 2009). While lively conversations were held in focus groups about dentists, like the following, the survey participants seem to overall have positive feelings about dentists:

"They make a hell of a lot of money. Because when you go to the dentist the first they see you, its ching, ching, ching, money, money. Especially if your teeth are bad. You know, but… it's like with anything, a lot of people would rather go to a private dentist because they know what they are doing. You go to a public dentist they aint got a clue, and if you've got someone that's young and hasn't got a clue and ends up taking the wrong tooth out, what do you do?" – Focus Group Participant

41% of participants in this study reported that they had had a negative experience with a dentist in the past. Often negative opinions were from focus group participants who also told us they had had negative experiences with dentists.

Focus Group Participant: *"I just cannot stand dentists. Because they are the lowest… obnoxious people that you can meet."*
Groundswell: *"What makes you think that?"*
Focus Group Participant: *"Well sometimes you go to the dentist and they will take the wrong tooth out."*
Groundswell: *"Take the wrong teeth out?"*
Focus Group Participant: *"The last time I went to the dentist was…. it weren't my fault, it's what he actually done. He never told me he was going to use a needle. He just went straight into the wrong tooth."*

7.2 Communicating During Appointments

Focus group participants discussed how it was important for dentists to communicate fully with those who are receiving treatment. Due to mental health and drug and alcohol issues that are common among homeless people it was felt that additional attention needed to be given to making sure that information is conveyed fully and completely understood. As one focus group participant explained:

"Here's how I see it right? If you go to the dentist and you work in the city they tell you to floss and you understand. But I think like with me – right, I am not going to say with us, but for myself I was, you know, chronically depressed, suicidal, just completely out of my head. You don't speak the same way to somebody who is having a mental crisis, the same way you are speaking to a regular person, who can listen to you right? The dentist tells you, it just doesn't go in. Because you have got a million other things in your head that you are worried about. There is a limitation of how somebody who is mentally distressed perceives that information. [You've got to] Speak on their wavelength really. Get on the same sort of page. I guess you have got to talk to someone in the way they are going to understand it. If a 95 year old lady comes in the dentist, they are going to speak to her one way. If a four year old kid comes in…. and if a teenager with autism goes in there, they are going to talk to him in a different way. So I guess that's how you do it." – Focus Group Participant

A participant from another focus group explained his perception of good and bad practice:
"So when I went to this one, because I guess they put the appointments right next to each – sit down straight away without telling you anything. They just don't speak to you about what is going to happen. But the ones that are good, you sit down. Ok? So here is what is going to happen. We are going to do this, we are going to do this. This lady is here to do this, and we are going to do this. And you are like, OK that's what is going to happen. But yeah, so that would be the ideal thing to do. talk you through it." – Focus Group Participant

When we checked this with survey participants, 80% who had seen a dentist since they had been homeless agreed or strongly agreed with the statement "When I go to a dentist they will explain what they are planning to do in a way I can understand". This is near to the response in the ADHS 2009 where 91% of participants felt that the dentist explained reasons for dental care or treatment in a way that could be understood. However, there is a fine balance to strike between conveying a message clearly and treating people as more than just a 'homeless person'.

"They [Dentists] need to talk to you like a human being. Because what I have noticed with people since I have been homeless, is that they think you are doing it on your own, they think you just want to do drugs, they think you just want to be on the street. They talk … why don't you get job? Shit like that. And I think that's how a lot of people think, right? Because they just can't comprehend that this shit could be happening in their head." – Focus Group Participant

7.3 Treatment as a 'Homeless Person'

A common topic discussed in focus groups was how stigma could be a barrier to accessing dentistry and healthcare more widely. Participants felt that being homeless automatically set them behind people who were 'homed' and this was not only off putting but prevented participants from going to the dentist all together. As one focus group participant explains:

"My experience… the stigma is straight away as soon as you walked in… as soon as you walked into the practice, the stigma is you were ill-treated by the receptionist for a start. Oh it's him from the hostel, just sit over there. And we will get round to you … you know. And you could actually feel the tension in the room – or I could – in the room. I have always felt that the receptionist of any practice, whether it be a GP, whether it be dentist it's your first line of contact, your first point of call." - Focus Group Participant

It is also important to note that over a quarter of participants (28%) told us that they feel judged when they go to see a dentist. In the general population, 97% of people who have attended a dentist report that they were treated with respect and dignity. 50% agreed or strongly agreed that "If dental staff knew more about homelessness and how it affects people I think I would be treated better."

"If I had a magic wand, I would train all the dentists in knowing… some sort of knowledge of the situation of people who are homeless. And that kind of life they are going through. Your average sort of history of homeless people seems to be the same. There seems to be a pattern of adversity in their childhood, with problems with the family, that sort of thing. And that needs to be sort of taught to the dentist so they know that this is the person they are dealing with. So when they do… they know that … they should be treated differently, I guess with a bit more care, a bit more compassion, you know. Humility yeah. All those things, yeah. So that is what I would do – have some training from the dentists to deal with this certain population." – Focus Group Participant

A lesser level of treatment. Some participants reported that due to being homeless they felt the treatment that was on offer was 'lesser' than the general population. Only liable to have teeth pulled out and not repaired whereas others who were not homeless may be offered a higher quality service. Often this was associated to the cost of treatment. One participant explains this in relation to 'implants':

"Because the work I want done, they won't do. Simple as that. Implants. He [Dentist] is saying to me have false teeth, but I don't want to have false teeth. I've had little plates and I don't like them. They destroyed another two healthy teeth when I put them in. It's just they are cheap. To get implants [would stop the issue] you… don't have to put them in glass every night. [Which] When you are homeless you can't." – Focus Group Participant

Another factor that participants highlighted was waiting times for treatment which they felt would be less for others who were not homeless. One focus group participant explained his experience of waiting for treatment:
"Well in that in-between ground you are waiting, your tooth is deteriorating even more. So if you [don't] nip it in the bud from the beginning, it's just getting worse and worse. At the end of the day it's going to cost them more money now to put right… if they had treated it originally, it wouldn't be half as bad." – Focus Group Participant

8. Barriers to Treatment

This study has revealed that participants have not been able to make effective use of dental treatment and the result has been high rates of poor oral health, having a significant impact on their quality of life. The barriers to making effective use of dental treatment are both personal and systemic, however, with increased support and a better understanding of how dental services work improved access could be achieved.

8.1 Motivation and Competing Priorities

We found that many participants had given up hope with ever having good oral health. 33% of survey participants reported that their 'teeth were beyond repair'. As one focus group participant explained:

"The last one [Dentist] I visited… she took most of my remaining teeth that… I have only got one left. I have only got one left in my mouth now. And I have just come to that age now where it just doesn't matter. It's been like this for the last 20 years. And I have put up with it and everything. And people know me as they see me now so… I just don't see the point." – Focus Group Participant

For some participants drinking and drug use had created a cyclical issue where dentists refuse to see patients due to their drinking. One participant explains how his good intentions to go to the dentist were overcome by drinking:
"I didn't want it done [tooth extraction]. Because I don't like dentists. I was in rehab and I was in a position of trust and I was allowed to go about on my own. And I was off to the dentist and I ended up being pissed on two bottles of vodka and ended up you know." – Focus Group Participant.

17% of participants told us they can't get the courage to get to a dentist without a drink. For others it set them at an automatic disadvantage in terms of treatment from a dentist and practice staff.

"A lot of the time when I was homeless … living that chaotic life and street drinking, half of the time I was self-medicating. So most of the day I was under the influence of drink anyway. When I did go to a dentist that is the first thing that they smelt – was the drink. So that put me at a disadvantage from the start. But most of my … er…. medical things, when I were all the time… I was self-medicating. Through drink. And that's how I survived." – Focus Group Participant

8.2 Dental Anxiety and Phobia

Using the Modified Dental Anxiety Scale (MDAS) we recorded the levels of dental anxiety experienced by participants within the scale possible scores range from 5 to 25. Our findings revealed that overall the participants we spoke to were below the national average for dental anxiety with a mean average score of 10.68 compared to the normative value for a UK general public population at 11.6 (the normative value for a general practice patient population is 10.39). 27% of our participants reported to be above average and 56% below average on the MDAS scale.

[30] The oral health of homeless people across Scotland. Smile4life 2008-2009 (page18)

However, our findings reveal that within our group of participants there was a large proportion of participants who would be likely to be dentally phobic (with scores over 19 indicating dental phobia). 14% of participants |scored as likely to be dentally phobic, a proportion just below the Smile4 life research delivered in Scotland[30] where 20% of their survey participants were characterized with dental phobia according to the MDAS measure. Similarly to the Smile4life study the most feared items of dental treatment were the anaesthetic injection and the drill.

However, a quarter (26%) of participants told us they would have been less anxious before they were homeless. However, for some the fear could be traced back to previous negative experiences. As this focus group participant explains: *"I have got a phobia of the dentist. I can't even walk past the dentist place without breaking into cold sweats and shaking. Because I had a bad experience when I was young. They went to take a tooth out and the dentist put the needle in my gum. But it went straight through my gum and he injected my tongue… I was about 13."* – Focus Group Participant

We asked survey participants if there were any reasons why they might feel anxious when they attend a dentist, responses were coded and can be seen as the following:

Reasons why participants report to feel anxious when visiting the Dentist.		
	Frequency	Percentage
Feels a lack of control when I am at the dentist	26	13%
Worried the dentist will do too much work (remove too many teeth etc.)	30	15%
Scared of pain	58	28%
Scared of needles	40	20%
Anaesthetic no longer effective on me	9	4%
I don't feel anxious when I go to a dentist	41	20%
	204	

Table 11 Dentistry and reasons for anxiety

Commonly a reason for being anxious in dental appointments is the feeling of a lack of control. Research reveals that providing clear information about treatment increases patient's sense of control and is key to relieving dental anxiety[31]. The 'stop' signal in which patients are encouraged to tell health practitioners if they feel uncomfortable has been shown to help those anxious about treatment in general to engage.[32] One focus group participant explains his experiences:

"The thing that stopped me from going to the dentist initially was what I thought was a fear of pain. But I only realised a while back that it's not, it's the fear of not being in control. You are so vulnerable in that dentist chair – you are lying back with your mouth open and they can do anything when they are in there. I used to think it was the pain of injections but the pain is over in a second and then it is just a discomfort of them rooting about. So maybe… I don't know, like getting dentists or dental nurses, like people that in training. Getting them in to talk. To come to [homeless services] and explain that the pain only lasts a minute. Or getting people that have got this experience to explain that pain doesn't last long at all. It's the fear of not being in control of the situation – that's what stopped me personally. But I think that that's what stops a lot people, without them realising. Do you know what I mean? It's just the fear of not being in control of that situation." – Focus Group Participant

[31] Newton, T., Asimakopoulou, K., Daly, B., Scambler, S., Scott, S., "The management of dental anxiety: time for a sense of proportion?", *British Dental Journal* 213, 271 - 274 (2012).
[32] Richardson P H, Black N J, Justins D M, Watson R J. "The use of stop signals to reduce the pain and distress of patients undergoing a stressful medical procedure: an exploratory clinical study." *Br Journal of Medical Psychology,* 2009; 72: 397–405.

8.3 Costs & Entitlement

Cost was commonly explained as an issue that had prevented people from attending the dentist both in terms of signing up and also seeking check-ups and treatment on an ongoing basis. One focus group participant explained how he was unable to receive care due to cost until the problem had become a more serious issue:

"Years ago I got a very big tooth problem. I go to the dentist and they give to me the price list. And so to take off this tooth I must pay a lot of money. They want £25. Excuse me I am homeless, I've not got money. Then a bigger problem, because I have got a big infection... they take off my tooth for free." – Focus Group Participant

Lack of information around entitlement. A clear issue that arose in both qualitative and quantitative data was that there was a lack of information around what people are entitled to when it comes to treatment with an NHS dentist. 58% of participants either agreed or strongly agreed that they were 'unclear what they were entitled to regarding NHS Dentists'. There was a call from focus group participants to receive more information about entitlement particularly around how entitlements to care are affected by different benefit payments.

"I think this will be a long side with information. Circulating information. Because some people do want to get their teeth done. But because they are challenged with finances, and the lack of information. But if there was a system that was in place to get people to know what they are entitled to, so they can get it done whilst it is still possible. Do you know what I mean? Then you prevent people from just waiting until it is too late to do the teeth, whilst they could have known it if there was that opportunity going round the hostel. Maybe through the GP, as [name] is saying. Once we are registered at the GP, we are given the opportunity to have our teeth checked." – Focus Group Participant

One participant told us that she was unaware about being entitled to dental care until she received the HS2 card for free prescriptions and read the entitlement on the card itself:

"I didn't know, actually know, I was entitled to dental care until I got the [HC2] card. And that's what motivated me to take myself to the dentist. Because it was money that was the main factor. Because if the money is not there for you to get that service, then I thought what is the point of going back? I knew that I had that cavity, but I did not go because of that money problem. And when I visit with exemption card; that was the reason why I could go and present myself to the dentist and register with them. Then I received good care." – Focus Group Participant

9. Conclusion

The Healthy Mouths study has revealed the significant oral health problems that homeless people in London are currently facing. The day to day realities of homelessness, drug and alcohol misuse and mental ill-health are clear drivers in this issue. However this study reveals that there are additional systemic barriers that homeless people face in order to access oral health treatment and ongoing care.

Oral health problems among participants in this study are widespread and are having a significant impact on people's quality of life and in some cases cases are restricting individual's ability to move on from homelessness. These problems are also likely to be placing an increased burden on other health services, particularly emergency care.

However participants in this study felt positively towards oral healthcare professionals and, given the opportunity, demonstrated a desire to improve their oral health. Access to dentistry is not only key to having a good smile, but is essential to general health and wellbeing. By improving access to dental care we can play an important role in ultimately supporting people experiencing homelessness to change their lives.

Appendix 1: Demographic Characteristics of Participants

The qualitative research phase involved speaking to 49 people whilst the quantitative data represents the experiences of 204 individuals. Demographics are compared to data from CHAIN which records rough sleeping in London and SNAP which records use of homelessness services nationally.

80% of participants were male and 20% female which is as would be expected between the figures in SNAP (72% /28%) and CHAIN (85% / 15%). In terms of age, our sample appears to be somewhat skewed towards older homeless people, this is likely to reflect specialist provision for this age group which was not visited in our research. 18 – 25 year olds represent 10% of CHAIN[33] records and 16 – 24 year olds account for 45% of those recorded in SNAP[34] using homeless accommodation services, however in our study 18 – 24 year olds were only 6% of participants. In other age groups our sample was 21% 26 – 35; 28% 36 – 45; 29% 46- 55 and 16% over 55 compared to CHAIN for which the percentages are respectively 28%, 30%, 21%, 11%. The ethnic breakdown of participants appears to represent the mix of day centre and accommodation services visited in this research. The proportion of White British participants is 43% which is significantly higher than the 28% recorded on CHAIN, SNAP does not give a direct comparator but records 15% of accommodation project residents as BME and 9% as from EEA countries suggesting that White Brits are indeed more common in accommodation projects. 19% of the sample described themselves as White European and 4% white "other", CHAIN records 36% "White Other" which would include Europeans again these figures suggest speak to the mix of participants between accommodation projects and day centres. 23% of CHAIN records come from BME groups while in our study these account for 21.5%.

41% of participants described themselves as having a disability. 71% had experience of rough sleeping.

[33] Greater London Authority, *CHAIN ANNUAL REPORT GREATER LONDON APRIL 2015 - MARCH 2016*. Available at: https://data.london.gov.uk/dataset/chain-reports

[34] Homeless Link Support for single homeless people in England: Annual Review 2016.

Appendix 2: Literature Review

General Poor Health.

People with experience of homelessness are known to have significantly worse health outcomes than the general population and higher rates of mortality.[35] [36] In one recent UK study 73% of participants reported a physical health problem and 80% a mental health issue.[37] The report corroborates other evidence of a lack of appropriate provision and high rates of hospital admission, often for long stays[38] suggesting a high level of undiagnosed health problems which are only treated when crisis emerge. As well as the human cost of these issues, costs to the NHS for secondary care have been estimated as 8 times that of treating the general population.[39]

Poor Oral Health.

It has been well established that these health inequalities are prevalent in relation to oral health. Several studies have used a methodology involving a clinical assessment of needs conducted by dental professionals. Daly B et al's clinical study found that 99% of participants recruited through homelessness services in South London required treatment for a dental health condition. The most common need was around gum disease for which 85% of participants required treatment whilst 76% required total dental restorative treatment.[40] Similarly analysis of individuals using a targeted dental service in South London found that 93% required some form of treatment.[41] Another, study of a targeted homelessness dental service in East London also found near universal (99%) need for treatment with the most common reason given by participants for attending being severe or constant pain. In Scotland, a large scale study of 853 people experiencing homelessness found high levels of missing teeth - five on average but this figure increases with age whilst decay was more common amongst younger participants. At the same time the sample population had an average of just two filled teeth. The authors compare these results with those recorded in the Scottish Adult Dental Health Survey 1998 conclude that, in contrast to the general population where tooth decay is often addressed and treated, homeless participants were only getting access to treatment when in pain and their teeth were beyond repair.[42] Research using a questionnaire approach in specialist dental units for homeless people in London, Cardiff, Glasgow and Birmingham also found high levels of need reported both by dental professional and homeless clients also found high levels of reported need with 94% of participants reporting dental pain. Existing research by Pathway has demonstrated the high levels of dental problems and their significant impacts on the quality of life of homeless people, many of which continue into individuals' recovery and resettlement[43].

[35] O'Connell J.J., (2005), Premature Mortality in Homeless Populations: *A Review of the Literature, Nashville:* National Health Care for the Homeless Council.

[36] Morrison D.S., (2009) *"Homelessness as an independent risk factor for mortality: results from a retrospective cohort study"*, International Journal of Epidemiology, 38 (3): 877-883..

[37] The unhealthy state of homelessness: Health audit results, Homeless Link, 2014.

[38] Office of the Chief Analyst, (2010), Healthcare for Single Homeless People, Department of Health.

[39] Office of the Chief Analyst, (2010), Healthcare for Single Homeless People, Department of Health.

[40] Daly B., Newton T., Batchelor P. and Jones, K. (2010), "Oral health care needs and oral health-related quality of life (OHIP-14) in homeless people", *Community Dentistry and Oral Epidemiology,* 38: 136–144.

[41] Daly B., Newton J.T., Batchelor P., (2010), "Patterns of dental service use among homeless people using a targeted service", *Journal of Public Health Dentistry,* (70) 45 – 51.

[42] Coles E., Edwards M., Elliott G. M., Freeman R., Heffernan A., Moore A., (Eds.), *Smile4Life*: *The oral health of homeless people across Scotland Report of the Homeless Oral Health Survey in Scotland*, 2008-2009.

[43] Pathway, "Improving access to dental services for homeless people. Summary of findings from exploratory research", UCLH. (2013)

Barriers to good oral health.

Cole's et al's qualitative investigation into the reasons for poor oral health provides a useful insight into the types of difficulties faced by people experiencing homelessness in managing their oral health. The study distinguishes between psychosocial and socio-economic factors. They argue that becoming homeless is often associated with a loss of regard for self-care as well as practical barriers to good oral health. In some individuals a process of "reconstruction" can occur as people move away from homelessness and begin to attend more to routine health needs.[44] This thinking mirrors well established theories around the causes of homelessness in general which emphasise a combination of systemic and individual factors. [45]

Systemic barriers to good oral health care.

Pleace et al found that access to NHS dental services is a greater challenge for people experiencing homelessness compared to accessing general practice due to a lack of service provision.[46] More recent work has confirmed that rates of signing up with a General Dental Practice are still low with one study finding only 22% of homeless participants were on a dental practice list[47] and another just 16% in contrast to 40% in the general population.[48] In Scotland the Smile4life study revealed that 48% of homeless people find NHS dental care difficult to find, 54% had not been to a dentist for more than 10 years and 79% of participants wanted drop-in services for dental treatment.[49] These factors have been used to support the view that services should be more flexible and targeted, pro-actively seeking out people experiencing homelessness, offering flexible treatment.[50] Indeed, this is in line with current advice from the British Dental Association.[51]

Problems in accessing services are compounded by the need to attend to basic necessities of life which can take precedence over routine health care.[52] [53] [54] For example, one study found that, whilst most homeless participants owned a tooth brush, only 60% managed to brush twice a day and diets typically consisted of cheap processed foods high in sugar.[55] Another found participants struggling to afford basic dental health necessities such as a tooth brush and fluoride toothpaste and confirmed a reliance amongst people experiencing homelessness on cheap sugary foods.[56] Frequent consumption of sugary foods and lack of regular brushing with fluoride toothpaste can lead to both dental caries (decay) and periodontal (gum) disease, cervical caries (decay around the neck of the tooth), a notoriously difficult form of decay to treat, appears to particularly prevalent among homeless people.[57]

[44] Coles E., Freeman R., (2015), "Exploring the oral health experiences of homeless people: a deconstruction–reconstruction formulation." *Community Dentistry and Oral Epidemiology,* (44): 53–63.
[45] Fitzpatrick S., Kemp P., Klinker S., (2000), *Single homelessness An overview of research in Britain,* Joseph Rowntree Foundation.
[46] Pleace N., Jones A., England J., (1999), *Access to General Practice for People Sleeping Rough: Final Report*, University of York.
[47] Hill K.B., and Rimington D., (2011), "Investigation of the oral health needs for homeless people in specialist units in London, Cardiff, Glasgow and Birmingham", *Primary Health Care Research & Development,* (12), 135–144.
[48] Daly B, Newton T, Batchelor P, Jones K. (2010), "Oral health care needs and oral health-related quality of life (OHIP-14) in homeless people", *Community Dental Oral Epidemiology,* (38), 136–144.
[49] Coles E., Edwards M., Elliott G. M., Freeman R., Heffernan A., Moore A., (Eds.), *Smile4Life: The oral health of homeless people across Scotland Report of the Homeless Oral Health Survey in Scotland,* 2008-2009.
[50] Caton S., Greenhalgh F., Goodacre L., (2016), "Evaluation of a community dental service for homeless and 'hard to reach' people", *British Dental Journal,* 220, 67 – 70.
[51] *Dental Care or Homeless People,* (2003), BDA Policy Discussion Paper, The British Dental Association.
[52] Quilgars D., Pleace N., (2003), *Delivering Health Care To Homeless People: An Effectiveness Review,* (University of York).
[53] Gelberg L., Andersen R.M., Leake B.D., (2000) "The Behavioral Model for Vulnerable Populations Application to Medical Care Use and Outcomes for Homeless People", *Health Services Research,* (34, 6) 1273-1302.
1. [54] Fisher K., Collins J., (1993), *Homelessness, Health Care and Welfare Provision*, Routledge.
[55] Hill K.B., and Rimington D., (2011), "Investigation of the oral health needs for homeless people in specialist units in London, Cardiff, Glasgow and Birmingham", *Primary Health Care Research & Development,* (12), 135–144.
[56] Coles E., Freeman R., (2015), "Exploring the oral health experiences of homeless people: a deconstruction–reconstruction formulation." *Community Dentistry and Oral Epidemiology,* (44), 53–63.
[57] Dental Care or Homeless People, (2003), BDA Policy Discussion Paper, The British Dental Association.

"homeless identity" associated with chaotic substance misuse, prioritisation becomes more long term and care for oral health becomes a part of reclaiming self-esteem. [58] [59]

Specifically, opiates use is associated with loss of teeth, decay and inflammatory diseases in addition methadone usually contains a high sugar content, and can lead users to crave sugary foods, increasing the risks of dental damage although sugar free versions can significantly reduce this danger. [60] [61] Cannabis use increases the risk of decay and gum disease. [62] Cocaine use can lead to palatal perforation (damage to the roof of the mouth) and when rubbed into the gums can cause decay. In addition, cocaine's anaesthetic properties make dental procedures dangerous for those who have recently used. [63] In its smoked form, crack cocaine causes oral sores which can contribute to the spreading of blood born infections. [64]

Health inequalities among the homeless can also be attributed to individual's mental health problems. A recent Health Audit of individuals using homeless services found 80% reported a mental health problem with 45% formally diagnosed, double that found in the general population. [65] [66] Other research would suggest this might be an underestimate with one study finding reported levels of mental health difficulty being eight times higher than the general population for those living in hostels and 11 times higher for rough sleepers. [67] The links between poor mental and oral health are well established. A recent systematic review found that those with a diagnosis of sever metal ill health were 2.8 times more likely to have lost all their teeth compared to the general population and more likely to be suffering decay, missing and filled teeth. [68] Another systematic review looking at the links between anxiety and depression and oral health also found strong association between mental health diagnosis and the loss or decaying of teeth. [69] Both studies establish that mental health difficulties can lead to individuals neglecting their personal care resulting in poorer oral health.

[58] Coles E., Edwards M., Elliott G. M., Freeman R., Heffernan A., Moore A., (Eds.), *Smile4Life: The oral health of homeless people across Scotland Report of the Homeless Oral Health Survey in Scotland,* 2008-2009.
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Studies assessing oral health care for homeless people consistently identify mental health problems as a cause of dental anxiety; a reason for missed dental appointments and a cause of poor oral hygiene practices all of which contribute to disproportionately poor oral health. [70] [71] [72] [73] [74] [75] The Smile for Life study classes one fifth of participants as suffering dental phobia making treatment extremely difficult [76] and Collins et al found strong association between mental health difficulties and dental anxiety which was in turn correlated with worse oral health they found that 27% classified 27% of homeless patients as dental phobic in contrast to 10% of the general population. [77] They also conclude that improved oral health can lead to increases in confidence as individuals feel less stigmatised. Coles et all describe this process as "reconstruction":

"*a shift in the balance between destabilization and stabilization occurred, with the scales tipping towards stabilization, as evidenced by a return of their intention to attend for routine dental care.*"

As with other barriers encountered by people experiencing homelessness, these studies encourage dental services to offer flexible, targeted and empathetic support to the client group with the hope that those who succeed in this approach will ultimately be empowered to access mainstream dental services.

[70] Coles E., Freeman R., (2016), "Exploring the oral health experiences of homeless people: a deconstruction–reconstruction formulation." Community Dentistry and Oral Epidemiology, (44), 53–63.
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