

Scottish Dental Needs Assessment Programme
Older Adults
Dental Needs Assessment Report



SDNAP Older Adults Dental Needs Assessment Report

Foreword

The field work for this needs assessment report was conducted before the COVID-19 pandemic, and therefore consideration should be given to possible impacts of the pandemic while interpreting the results. The publication of this report was preceded by the Scottish Government reform of NHS dental services, effective from 1 November 2023. It is anticipated this reform may address some of the issues raised in the needs assessment. An evaluation will be necessary to assess the impact and effectiveness of the implemented changes.

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1 Executive Summary

1.1 Background

The Scottish Dental Needs Assessment Programme (SDNAP) was asked (prior to the COVID-19 pandemic) by the National Dental Advisory Committee to conduct a needs assessment of oral health and dental services for older adults and the potential future needs of this population group. One of the main aims of the group's work sought to explore dental service provision to adults aged 45 and over, and to forecast what their dental needs may represent when they reach old age. The population in Scotland (and other European countries) is ageing at a faster rate than many other areas of the world (Scottish Government, 2021a). It has been observed for some time that the increasingly ageing population were retaining more of their own natural teeth. Some of these individuals have received more complex dental treatment in the past, such as fixed prostheses and implants, which have been associated with an increased complexity of maintenance (Information Services Division, 2019). Many older adults also have other confounding patient modifying factors, such as multiple co-morbidities and polypharmacy – further compounding patient management (Barnett et al., 2012).

Good health and wellbeing in later life should be expected to be the norm, but the impact of social determinants of health can lead to health inequalities in older adults. Invariably as people age they become more dependent on others and may require additional support to access nutritious food, suitable accommodation and timely health care interventions (Age UK, 2019). Oral health is an integral part of overall health and wellbeing and should be prioritised as such.

The philosophy of 'leaving no one behind' was set out in 2015 by the United Nations 2030 Agenda for Sustainable Development Goals (SDG) (United Nations, 2015). The Scottish Government launched the first National Performance Framework (NPF) in 2007. The framework set out to measure national wellbeing beyond Gross Domestic Product. The NPF was revised in 2018, representing the Scottish Government commitment to ensuring the 2030 Agenda for Sustainable Development adopted by all United Nations is part of what it does in Government. Scotland was one of the first countries to publicly commit to the UN's SDG's (Scottish Government, 2015).

Each of the 17 SDG's were mapped against NPF National Outcomes:

- SDG 3 'Enable healthy ageing, wellbeing and access to health and care services'
- SDG 10 'Reduce inequalities and end discrimination later in life'

A Fairer Scotland for Older People framework for action was published in 2019 to challenge the inequalities faced by older people, focusing on maintaining financial security, access to health care, and housing (Scottish Government, 2019). The Oral Health Improvement Plan (OHIP), published by the Scottish Government in January 2018 identified challenges for meeting the needs of an ageing population and introduced arrangements to enable enhanced skills dentists to provide treatment in care homes to help reduce the gap in the provision of dental care for the care home population (Scottish Government, 2018).

The Caring for Smiles Programme is Scotland's national oral health promotion, training and support programme, which aims to improve the oral health of older people, particularly those living in care homes. The programme will need to evolve to meet the changing needs of this population group into the future.

During the period of investigation, an additional oral health improvement programme for younger adults with additional care needs (16 to 65 years of age) called Open Wide was launched. Hence, this programme was out with the scope of this report. As this develops, it too may need to adapt to the changing oral health needs of adults who need support with their oral health into old age. Consideration may be needed on the possible impact on other oral health improvement programmes including Smile4Life and Mouth Matters, for older adults who may experience homelessness or living in prison.

The aim of the SDNAP Report on Older Adults was to gain quantitative and qualitative insight into the future challenges for this population group to help inform and support the direction of travel for dental services in Scotland. This formed the basis for the exploration of data and information on adults aged 45 and over.

Much of the investigation of the working group took place between January 2018 and March 2020, before the COVID-19 pandemic, and as such the findings should be viewed with a consideration of the impact of the pandemic on dental services and the progress made towards the recommendations of the OHIP. The pandemic had a

devastating impact on the older population, increasing social isolation and loneliness (National Records of Scotland, 2020). A statement of intent was published by Scottish Government in March 2021 to address the impact the pandemic has had on older people, with an emphasis on prevention, person centred care, a home first approach, integrated health and social care, and dignity and respect at end of life (Scottish Government, 2021b).

The following is a summary of the methods and findings of a series of surveys and interviews with stakeholders as well as investigation of available service data. These data support the direction of travel as set out in the OHIP and aim to inform the changes required in relation to systems change, training and education, the role of prevention and the essential part these will play in meeting the future needs and demands of older adults in Scotland.

1.2 Methods

The report is based on the technique called Health Needs Assessment (HNA), a systematic method commonly used to evaluate health services. A HNA can be defined as a process of identifying the unmet health and healthcare needs of a population, and what changes are required to meet those unmet needs.

There were two main sources for information gathering to inform the HNA process. These consisted of the gathering of quantitative data to provide information on service delivery and activity, and qualitative data from surveys and interviews of the various stakeholders. The quantitative data exercise sought to explore age cohort data over time for NHS dental treatment provided to adults aged 45 and over. The aim of this was to identify possible patterns or trends, which could provide insight or indicators of possible future treatment/maintenance needs of these age cohorts as they transition into older age.

The quantitative data included:

- Primary care registration and participation data, Statement of Dental Remuneration (SDR) claims data and hospital activity data collected from Information Services Division (now part of Public Health Scotland (PHS))
- Population figures and projections obtained from National Records of Scotland
- Population trends and other data obtained from national reports and data sources

- Prospective audit of referrals received in restorative dentistry departments of four dental hospitals

The qualitative data consisted of:

- Survey of clinical directors/leads of the Public Dental Service (PDS), including activity in the PDS
- General dental practitioner (GDP), Dental Care Professionals (DCPs) and Care Home Managers Surveys (to determine the scope and nature of services being provided)
- Semi-structured interviews with General Dental Services (GDS) and PDS dentists and hospital consultant workforce (to gather perceptions regarding the service being provided)
- Structured questionnaires with service users (to gather perceptions regarding the service being provided)

1.3 Results and Discussion

1.3.1 Data Intelligence

The data obtained from Information Services Division (ISD) (now part of Public Health Scotland) provided an overview of the NHS dental service provision to patients in Scotland. It should be noted there were no data available for provision of care under non-NHS arrangements: this information was out of scope for this needs assessment and this impacts on what inferences can be made from the data.

What is of interest from the available data was the cost of NHS dentistry. When adjusted for inflation, there has been little change in the cost per head of population since 2000, but a marked reduction in the cost per registered patient. In 2000/01 the adjusted cost per head of population was £44, and the cost per registered patient was £89. In 2018/19 these figures were £50 and £53 respectively. It is not clear if this is influenced by improved population oral health, less engagement with dental services i.e. registered patients who have not attended or participated with services, particularly since the introduction of lifelong registration or a greater proportion of dental care being provided on a non-NHS basis. As such, caution must be taken with any inferences made from these data.

What has been seen from the data were the impacts of significant changes to the system of care. For example, following the implementation of the Scottish Dental Action Plan from 2005 and a revised Scottish Dental Access Initiative from 2007, there was an increase in provision of NHS dental services. This resulted in an upward change in the number of examinations performed. There was a steady increase in treatment claims under the SDR for examinations across all age groups aged 45 and over. A similar pattern was seen for simple scale and polish, but not for the provision of more intensive periodontal care.

There had been a steady rise in the number of permanent fillings claimed under the SDR since the year 2000. There was, however, more fluctuation in the numbers for adults aged 45-64, with a shift in the proportion of amalgam and tooth-coloured restorations. This may also have been influenced by provision of restorations on a non-NHS basis and could also account for a sharp fall in the provision of NHS crowns and inlays for patients aged 45-54 since 2013.

In recent years, the provision of NHS dentures for patients aged 45-54 has declined. This may be as a result of fewer extractions in this age group, but may also be influenced by a preference of patients to have fixed prostheses, such as bridges and implants.

The available data for secondary care dental treatment provision were limited and of low quality. Audit data gathered from dental hospitals in Scotland revealed removable prosthodontics, periodontics, endodontics-canal location, endodontics-retreatment and tooth wear were main reasons for referral to restorative dentistry departments. Referrals were received for patients spread across the Scottish Index of Multiple Deprivation (SIMD) quintiles. One dental hospital captured data on case complexity (as part of a service review) revealing approximately one-fifth of referrals had a treatment complexity that could conceivably be managed by GDS.

1.3.2 Qualitative Data from Surveys and Interviews

There was a wide range of responses from the surveys and interviews conducted across service providers and service users. Dentists from urban and rural localities contributed to this process. There were a number of key themes which were represented, which included:

- An increasing complexity of care
- A recognition of the role that prevention plays in managing oral health

- The NHS System of Remuneration (SDR)
- The impact on training, workforce requirements and the relationship between the various service providers

These will now be explored in more detail.

1.3.3 Increasing Complexity of Care for Older Adults

A prevalent theme in the feedback from service providers was an acknowledgement of the management of older adults was becoming more challenging. This included patient modifying factors, such as increased medical complexity. Some dentists reported they were making changes to their practice through education and improvements to premises to increase accessibility. However, many dentists felt unprepared for patients with increased medical complexity and this was reported as an increasing reason for referral of patients to the PDS and secondary care. This was reflected in the data on referrals and the views of PDS and secondary care service providers.

In addition to the challenges of patient modifying factors, dentists reported changes to oral disease patterns and treatment requirements for older adults. Over three-quarters felt significant periodontal disease was increasing, as was non-carious tooth surface loss (tooth wear). Other common conditions reported were failing advanced restorations, such as crowns and bridges, denture problems and dry mouth. For patients where treatment complexity was compounded by patient modifying factors, such as complex medical history, it often prompted referral into the PDS or secondary care. Another significant finding was the impact of increasing patient expectations, whereby there has been a growing demand for missing teeth to be replaced by fixed prostheses rather than dentures. Patients were becoming more dentally aware, due to access to the internet and social media, and were expressing increased demand for aesthetic and cosmetic treatments.

The observations of GDPs were reflected and supported by the feedback received from the PDS and secondary care. Both services recognised the increased challenges of patient management in primary care and reported increased numbers of referrals of older adults into their services. In some areas PDS and secondary care had needed to review their clinical offer and acceptance criteria to address demand management pressures.

A significant finding was the views from within the PDS and secondary care of an overlap between the complexity of the dental treatment required and the complexity of patient modifying factors. The former group of patients would be managed by specialty or specialist dentists, such as restorative dentistry or oral surgery. The latter would generally be managed by special care dentists, recognised in itself as a dental specialty. It was reported there has been an increasing need to ensure patient management on referral was cognisant of both treatment complexity and patient modifying factors, which were often, in the case of older adults, not mutually exclusive.

There was additional feedback from DCPs and care home managers regarding an observed increase in the complexity of maintaining oral health for patients retaining more of their teeth and those with fixed prostheses and partial dentures. This may present challenges in ensuring staff remain trained and supported to deliver Caring for Smiles as the needs of this population group change.

1.3.4 The Role of Prevention in Managing Oral Health

There was unanimous acceptance across all service providers and patient groups of the importance of a preventative approach to securing and maintaining oral health. Dentists expressed a desire for a more prevention-focused approach across the life course, but they felt that a greater focus on prevention would require a change towards a more comprehensive, transparent and fairly remunerated system with prevention a key component. All services felt that prevention would reduce future pressures on dental professionals. Overall, respondents were in favour of a wider offer of preventative advice to cover other health conditions, in a common risk factor approach. There were differing views expressed during the survey and interviews, with some dental professionals stating they offered preventative advice to all patients, others only to those patients at higher risk.

The views from patients indicated an increasing awareness of the importance of prevention. GDS patients valued preventative advice offered to them and were not only open to receiving preventative advice relating to gum disease, oral cancer and other conditions from their dental team – they felt it was essential.

Interestingly, the views of patients from PDS and secondary care differed slightly. The secondary care patient group expressed gratitude for the advice they received from secondary care, but some felt their dental health (particularly gum health) would have

been better if they had received this from their own dentist earlier. This was suggestive of potential variation in the preventative messages from GDS but will be influenced by differences between patients who engage with services and self-care, and those who do not.

1.3.5 The NHS System of Remuneration (SDR)

There was significant feedback on how dentists felt the existing system was impacting on the dental care provided to older adults. There has been expressed dissatisfaction within the profession on the SDR. This has been acknowledged by Scottish Government and work was underway prior to the COVID-19 pandemic on the development of a new model of care.

The major themes from the profession centred on the difficulties in offering care owing to the constraints of the SDR. Frequent examples quoted insufficient remuneration to support adequate prevention. This was also cited as a problem for the additional time required to appropriately manage patients with increased complications, such as a complex medical history. It is clear these perceived issues were not mutually exclusive and whilst they represent the views of practitioners who responded, they do not explore the attitudes of the wider dental profession towards the provision of care to older adults, including those with increased complexity.

The SDR has been perceived to lack scope and remuneration for the management of certain conditions, such as periodontitis and tooth wear. The example of periodontitis is interesting as it is known to be a prevalent condition, yet beyond the high number of SDR claims for a simple scale and polish, there were scarce claims for the management of more significant periodontal disease. The condition resulted in a high number of referrals into secondary care. Some dentists reported the lack of scope within the SDR often forced patients down a non-NHS pathway of care, but only for those patients who could afford it.

The feedback from secondary care consultants reflected their opinion that many patients seen in secondary care on referral could be managed in primary care if there was an appropriate system in place.

1.3.6 The Impact on Training and Workforce Requirements

Whilst some dentists felt they did not consider the management of complex medical histories as part of their role, many reported they perceived this as a gap in their

knowledge. The remit of the report did not include exploration of the attitudes of the profession towards providing care for patients with complex medical histories, however, the comments received in the surveys and interviews suggested a need to explore this in more detail. Most dentists reported they had not received any specific training for the management of older patients. There was also an acknowledgement from some that increased medical complexity was not limited to older adults and increasing numbers aged 55 and over were living with complex medical conditions. There was a clear identification of a need for additional training opportunities in order to support better patient care, for both increased medical complexity and the management of associated dental conditions for older adults.

At the time of the survey, many dentists stated they did not perform domiciliary visits and would require additional training. (It should be noted this occurred at the time when the training for enhanced skills practitioners in domiciliary care was commencing).

The PDS and secondary care were actively seeking the possibility of skill mix and people working to the top of their licence i.e. utilising their full range of competencies, to help meet the increasing demands on services. There had been increased pressures owing to staff losses to retirement and a shortage of staff specifically for oral medicine and special care, but also specialists and senior clinicians with experience in treating older adults.

The Caring for Smiles programme provides an essential means of supporting oral health for older adults. Findings of this report demonstrated the dental needs of this client group were evolving and becoming more complex. Therefore, there will be a need to ensure this programme (and other oral health improvement programmes) will continue to provide relevant training and support to care providers in maintaining good oral health for their clients.

1.4 Conclusions and Recommendations

This report contains a wide spectrum of views across service providers and patient groups on the future dental needs of older adults. Some of these are strong views, in particular in relation to the SDR. They are not unsurprising and it should be noted work was underway prior to the COVID-19 pandemic on implementing the recommendations of the OHIP and exploring a new model of care, with prevention as a key theme.

The findings of the report are consistent with existing views in relation to the increasing challenges in the dental treatment and maintenance of oral health for older adults. The report provides additional insight and context from the profession and patients on historic and current challenges and how these may inform how we move forward beyond the recovery of services following the COVID-19 pandemic. It remains the intention of the SDNAP report on older adults to contribute towards informing this process.

1.4.1 Data Quality

The findings of the report are based upon the available data and the responses received through surveys and interviews. It should be stated there are gaps in the evidence. The lack of robust service activity data for secondary care and the limitations in the primary care data, where there is no information available for non-NHS treatment, mean it is difficult to make unequivocal inferences. Nevertheless, combining the available data and the feedback from the profession and patients provides a useful indication and insight.

The sample size (and response) to the GDP surveys provided were sufficient to achieve 95% confidence. There was a mix of rural and urban dentists and a distribution across all Territorial Boards. However, the sample size was too low to compare responses at an individual Board or at a rural vs. urban area level. There were points raised regarding access to services in rural areas, but this was also reflected in urban and city areas, with difficulties in accessing premises, as opposed to distance from, and numbers of clinical sites in rural areas.

The findings of the SDNAP Report on Older Adults recommend the following:

1. The profession should continue to support the work of Scottish Government on the ongoing new model of care with prevention at the centre and across the life course. The scope and clinical offer of the new model should be reflective of the changing needs of the population and be supportive of the profession as well as affordable for patients.
2. The review, evaluation and adaptation processes for the national oral health improvement programmes, particularly Caring for Smiles, will need to consider the changing population demographic to ensure they are 'future-proof' and

continue to meet the training requirements of staff and the needs of more vulnerable and older adults.

3. Opportunities for education and training for existing and future dental workforce should be provided to meet the needs of an older population with an increasing complexity of care and to explore the attitudes of the GDS workforce in meeting the needs of older adults.
4. A review of the relationship between PDS and hospital specialist dental services, special care dentistry and GDS is required to close the gap in service between treatment complexity and complexity of patient modifying factors.

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2 General Dental Service (GDS) Provision Summary Findings

2.1 Demography and Epidemiology

An understanding of the demographic make-up of a population is vital for service planning and assessing the needs of the population. Reports from National Records of Scotland, ISD (now part of Public Health Scotland) and the Scottish Government were considered for this section.

2.1.1 Key findings

1. There were significant differences in functional dentition in older patients between those living in the more deprived areas and those living in less deprived areas of Scotland i.e. 54% of 45 and over from SIMD 1 do not have a functional dentition compared to 35% from SIMD 5. The effects of these differences on dental health and general health within Scotland coupled with an ageing population were extensive.
2. Around 25% of Scots were living with more than one complex health condition. They required more health and social care and this requirement is likely to increase as they age. This means the need for dental care provision for older people in the future will be multifaceted or complex.
3. Between 2011 and 2019, the percentage of the Scottish population registered with an NHS dentist had increased from 63% to 88%, a rise of 26%. Nonetheless, the percentage of registered patients who have participated in NHS care had gradually decreased from 82% to 70%, a drop of 12% over the same time period. On the whole this represents an increase in the number of people engaging with NHS GDS dental services.
4. In 2019, the average cost of dental care per head of adult population was £53 after adjusting for inflation, a decrease of £36 between 2000 and 2019. However, this varies across Scotland ranging from £39 for Shetland to £56 for Greater Glasgow and Clyde and Orkney. It was not clear if this was influenced by improved population oral health, or a greater proportion of dental care being provided on a non-NHS basis. As data for non-NHS dental care were not available, there was insufficient information to draw firm conclusions to explain why there had been a fall in the cost per head of NHS dental care. Non-NHS dental care was out of scope of this report.

2.2 Treatment Trends and Projection Across 45+ Age Cohorts

NHS treatment claims for 45 and over age cohorts from 2001 to 2019 were studied to understand any changes in treatment trends that could help to inform future treatment needs for older adults i.e. what their dental needs may be when they reach old age.

2.2.1 Key findings

1. The most common treatments were examination and report, radiographs and study models, periodontal treatment, permanent fillings, extractions, provision of dentures and inlays and crowns.
2. The pattern of all seven interventions/treatments mentioned above seems to be similar when comparing across the age bands from 45 up to 85+. In most cases, the data suggest there were significant changes in treatment trends from the year 2009. This may be interpreted as a point of inflection, reflecting an outcome of policy change resulting in an impact on practice. The major policy changes that took place in Scotland at that time period were implementation of the Scottish Dental Action Plan from 2005 and a revised Scottish Dental Access Initiative from 2007. These policies provided better support for dentists in terms of premises, IT, staff, and health and safety needs, in return for commitment to the NHS. As a result of these two policies there was increased dental care provision under the NHS.
3. In the permanent fillings treatment category, only amalgam, composite or synthetic resin treatments were common. Other treatments such as glass ionomer, silicate or silico-phosphate, incisal acid etch and pin or screw retention treatments were less frequently used. Analysis of amalgam and composite or synthetic resin claims showed that there was a decrease in the provision of amalgam restorations, although they were still offered.
4. There was a fall in the number of claims for the 45-54 age cohort recorded for scale and polish, fillings, extractions, inlays and crowns and the provision of dentures from 2014, but the drop was more significant for some cohorts than others. Overall, the 45-54 age group demonstrated a decrease in claims for the five most common treatments. This might be because there was an improvement in oral health in the

younger adult age groups, or uptake of non-NHS dental care but this would require further study to confirm.

5. During the analysis of treatment trends, oral hygiene instruction did not feature as a commonly claimed item. This can be explained because the provision of some preventative advice is covered within the SDR claims for the provision of a course of treatment, rather than being claimed as a standalone item.

2.3 General Dental Practitioner (GDP) Survey

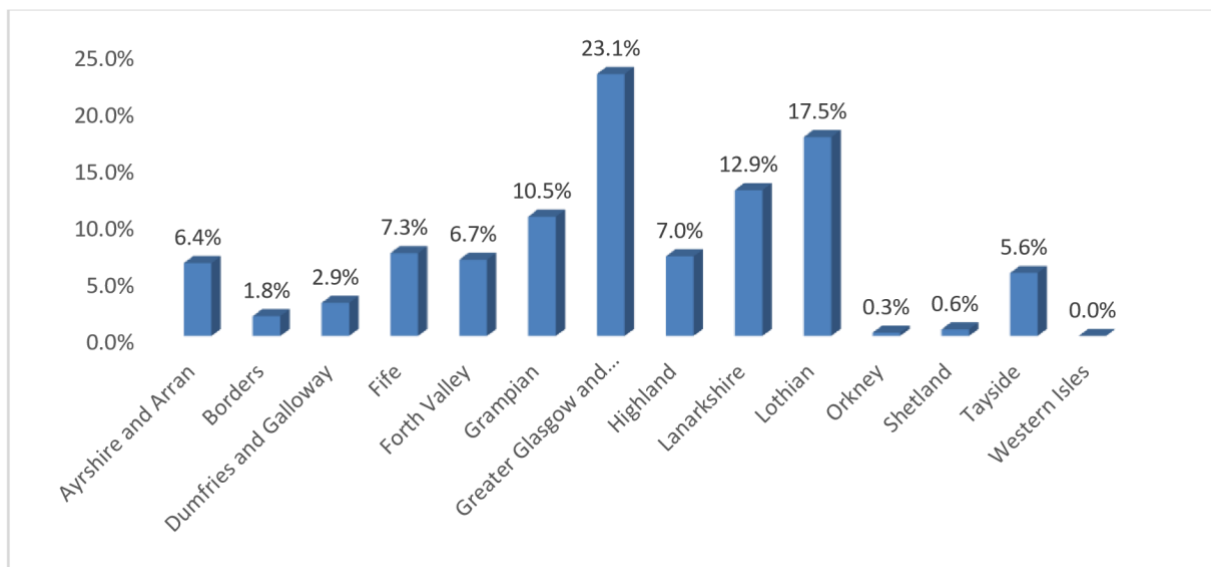
2.3.1 Aim

The aim of the GDP survey was to determine the nature and scope of provision of routine care to adults of age 45 and over by GDPs. In addition, we investigated policies and action plans in place for managing the increase in older adults, barriers to providing routine care, and referral pattern to PDS clinics and Hospital Dental Services (HDS) by GDPs.

2.3.2 Method

An online survey of GDPs was carried out between July and September 2019. Out of 2835 GDPs that were invited to participate, 342 (12%) GDPs responded to the survey. Sample size calculation confirmed a minimum sample size of 339 was required to achieve 95% confidence level. Response rate was representative in terms of percentage of GDPs in the NHS Board areas, with 23.1% (79) of respondents working in Greater Glasgow and Clyde, 17.5% (60) Lothian, 12.9% (44) Lanarkshire, 10.5% (36) Grampian NHS Board areas and 36% (123) from other NHS Boards (see Figure 1).

Figure 1: GDP response by NHS Board area



2.3.3 Key findings

Please note the percentages presented in the data may add up to more than 100% because of the nature of multiple-choice questions, where respondents had the option to select more than one category.

1. GDP responses to the survey provided a range of opinions regarding the prospect of seeing an increase in the number of patients aged 45 and over. Furthermore, 64% expressed they felt unprepared to meet the change in demographics i.e. an increase in the older adult population.
2. The majority of GDPs who participated in the survey indicated they provided preventative advice to their patients, such as dietary advice (86%), tooth brushing instruction (97%) and smoking advice (86%). Over half (52%) of the respondents reported they also provide alcohol brief intervention advice.
3. Three-quarters of GDPs who participated in the survey indicated they observed periodontal disease and tooth wear were more prevalent in patients aged 45 and over. Just under half (46%) reported patients had complex medical needs and almost three-quarters (72%) also reported patient expectations were increasing.
4. Over half (54%) of the GDPs who participated in the survey felt complex medical problems were barriers for providing treatment, even for patients aged 55-64. Nonetheless, some GDPs stated complex problems could be addressed in the practice, but would be dependent on the skillset of the practitioner and the availability of funding under SDR. It was recognised it would be most cost effective

to provide treatment in a general dental practice setting where PDS/HDS input was not required.

5. Over half (54%) of GDPs who participated in the survey indicated patient ability to pay and patient attitude have been barriers for the 45+ age group. However, some GDPs felt these barriers were dependent on demographics and socioeconomic status of the patients and were not common. Yet, cost of dental treatment has been recognised as an important barrier to dental care in adult patients, and our need assessment also found the ability to pay had an impact on accessing treatment on time and choosing the right type of treatment.
6. Most GDPs (80%) who participated in the survey reported they did not have specific training for treating older people and 84% indicated they did not have training in domiciliary care.
7. The most common reasons for referral to HDS were for management of patients who have a degree of dental complexity (57%), a need for surgical procedures (52%) and medical complexity (47%). Treatment under sedation (32%), management of patients with anxiety (29%) and special needs (22%) were also common reasons for referral to HDS.
8. The most common reasons for referral to PDS were management of anxiety (63%) and additional care needs (62%). Treatment under sedation (59%), management of patients with complex medical conditions (51%), and poor co-operation (44%) were also common reasons for referral.

2.4 GDP Perceptions

Semi-structured interviews were conducted between November 2018 and June 2019 to further explore the issues raised by the dentists who participated in the initial survey. Nine GDPs participated in the interviews. A topic guide was used to ensure relevant areas were covered. Thematic analysis of interview transcripts was undertaken using NVivo 10.

2.4.1 Key findings

Perceptions about patients

1. GDPs who participated in the interviews felt patients were increasingly seeking and using dental health information online to become more active in managing their dental health. Patients knew what they would like and were choosing aesthetic and cosmetic work.
2. More people were living longer with multiple co-morbidities and GDPs had to keep up with patients' medical histories and follow guidance and protocols if available. Some GDPs who participated in the interviews expressed they did not feel prepared to deal with the challenges of managing older patients who have retained their teeth and suffer from multiple co-morbidities, and often opted to refer patients to the PDS or the dental hospital.
3. GDPs who participated in the interviews indicated there was a shortage of dentists and appropriately trained members of the wider dental team to treat patients with complex medical conditions.

Perceptions about access to care and SDR

4. GDPs who participated in the interviews felt access to adult NHS dental care was not easy and became very difficult for older patients living in some parts of Scotland where there was limited access to NHS dental services, especially the North of Scotland. Some GDPs indicated they would not provide dental care under NHS for adults because it was not a financially viable option for them. Moreover, access to dental care for older patients was further limited because some GDP practices had limited accessibility, either located in basements or on upper floors of buildings.
5. GDPs stated the SDR remuneration system had not been updated for a long time and they felt it was no longer fit for purpose. They felt GDPs should be remunerated appropriately for the time they spend treating patients. Introduction of an enhanced fee for treatment of older adults to reflect the medical complexities, physical complexities and time taken to deliver treatment would be welcomed.

Secondary Care

6. Some GDPs who participated in the interviews expressed dissatisfaction with consultant or secondary care input for restorative dentistry in some Board areas, and indicated the support GDPs used to receive before was no longer available.

Waiting times in all Board areas were long and the referral criteria were complex, therefore they were reluctant to refer patients to restorative dentistry departments.

7. GDPs recognised restorative dentistry departments were stretched and there was a shortage of staff to undertake treatment. Some GDPs felt they were left with complex cases with no support. However, some dentists interviewed indicated maxillofacial surgery, oral medicine and oral surgery departments were able to see patients quickly for urgent referrals.

PDS

8. GDPs who participated in the interviews felt patients were seen quicker in the PDS compared to the HDS. It should be noted the services provided by the PDS differ from hospital services and therefore should not be compared.

Training to treat older patients

9. In contrast to the wider survey responses, during interviews, some GDPs believed they were trained to a very good standard and the skills they had acquired were transferable to any group of patients. They felt they did not really need to attend specialised training to treat an older patient.
10. GDPs indicated that there was stress in the profession, GDPs had a lot of work or other things to deal with and there was limited time for training. Allocating protected time for training might motivate them to undertake training.

Prevention

11. GDPs were in favour of prevention, but responses were varied about offering preventative advice. Some dentists already provided preventative advice to their patients who were at high risk of caries, while others said they would not provide detailed preventative advice on the NHS because they were not remunerated to provide preventative care under the SDR item of service.
12. GDPs recommended a programme similar to Childsmile fluoride varnish should be introduced for older patients of age 65 and over. Pragmatic and preventative techniques should also be considered.
13. GDPs who participated in the interviews indicated hygienists were valuable members of the dental care team, but patients might not be able to access hygienist care under the NHS because under practice business models hygienist care was

increasingly offered privately. Older patients aged 65 and over, who were on a pension, might not be able to afford to pay for private hygienist care.

2.5 Patient Interviews in GDP Practices

As part of the needs assessment, patients aged 45 and over attending GDP practice were interviewed. The aims of these interviews were:

1. To investigate patient attitudes about oral health status, oral hygiene, diet, health and ageing
2. To explore perceptions of patients about oral health services and service providers

2.5.1 Methodology

Structured face-to-face interviews were conducted between 3 April 2019 and 13 June 2019 in three GDP practices in Scotland. A questionnaire was used to ensure relevant areas were covered.

A total of 52 patients attending three GDP practices participated in the patient interviews. These three dental practices were located in SIMD areas 1, 2 and 3. SIMD is the Scottish Government's standard approach to identify areas of multiple deprivation in Scotland. Practices were based in Ayrshire, Edinburgh and Perthshire. Participation in the interviews was voluntary, a patient information leaflet and consent form were given to the patients who volunteered to be interviewed. Female patients (31) showed more interest in participating in the interviews than male patients (21). Nearly half of the patients (46%, n=24) that participated in the interview were aged 65 and over.

2.5.2 Key findings

1. Only 21% of patients who participated in the interview reported they had all their natural teeth. 40% of patients who participated in the interview reported they were happy with their oral health status and described the state of their mouth as 'fine', 'good', 'ok' and 'alright'.
2. Most patients reported they looked after their mouth and maintained good oral hygiene and bleeding gums were not common in patients interviewed in the GDP practices.

3. Patients reported they were motivated to regularly visit the dentist because they wanted to keep their mouth and teeth healthy for as long as they could. Patients felt dentist attitude was very important to them. They appreciated the consistency of seeing the same dentist regularly and stated the dentist should be sympathetic and understand the patient's emotional state.
4. Patients who participated in the interviews reported being less motivated in regards to their diet or health compared to patients attending the PDS and HDS.
5. Fear of dentists or dental anxiety and lack of parental encouragement during childhood were commonly reported causes of poor oral hygiene.
6. Patients valued prevention and were not only open to receiving preventative advice relating to gum disease, oral cancer and other conditions from their dentists but felt it was essential. Patients recognised dentistry is now more preventative than it was in the past.

3 Secondary Care Services Summary Findings

3.1 Hospital Dental Services (HDS) Activity

Restorative Dentistry Prospective Referral Audit and Oral and Maxillofacial Surgery (OMFS) Data Gathering

SDNAP carried out a prospective audit of referrals received for patients aged 45 and over in the restorative dentistry departments of four dental hospitals and one district general hospital. A pilot study was undertaken to test the feasibility and make amendments to the data collection form in November 2017 for two weeks. Glasgow Dental Hospital (GDH), Dundee Dental Hospital (DDH), Edinburgh Dental Institute (EDI) and Raigmore District General Hospital (RDGH) participated in six-month audit from 22 January to 22 July 2018 and Aberdeen Dental Hospital (ADH) was able to undertake an audit of referrals for two months from 1 August and ending 30 September 2019.

3.1.1 Aim and Methodology

The aim of the audit was to investigate the pattern and reasons for referral for patients aged 45 and over to the consultant-led restorative dentistry departments in dental hospitals and a district general hospital. The data items included the reason (condition) given for the referral, age, medical or dental history of patients being referred, referral outcome and other data items. OMFS data collection was also undertaken. All Health Boards were contacted and were requested to provide OMFS activity data. The rationale for this approach was to understand the nature and complexity of referrals and treatments provided to adult patients in secondary care. This information complemented the information on GDS service provision and provided an indicator of what future care and maintenance needs might arise for older adults who have received complex dental treatment.

Reliable high quality secondary care data were not available. Information recording and submission to ISD (now part of PHS) was not consistent in hospital departments and some specialities, particularly oral medicine, were unable to quantify activity numbers. The data gathered from Health Boards for OMFS showed the demand (new and return attendances) but not the nature or complexity of care. However, some Boards were able to submit additional data with treatment codes (OPCS) which could provide some indication of the level of complexity of cases being treated in hospital.

It should also be noted GDH and DDH are large teaching hospitals compared to ADH and EDI which are smaller and therefore any comparison between the hospitals should be made with consideration of differences in the size and composition of the staff in the hospitals.

Data were obtained from the Scottish Cancer Registry and Intelligence Service for trends in incidence of head and neck cancer between 1993 and 2017. This data suggest there has been an increase in the European age standardised rate for head and neck cancer for older adults in Scotland aged 65 and over.

3.1.2 Key findings

1. GDH and DDH received higher numbers of referrals compared to other dental hospitals, which was as expected.
2. Most patients (>80%) who were referred to restorative dentistry departments did not have a complex medical history. However, it was observed that EDI and RDGH received higher numbers of referrals for patients with complex conditions.
3. GDH received a higher percentage of referrals that lacked information vital for decision making such as radiographs, clinical information and other important information and therefore had the lowest referral acceptance rate with 62%. ADH had the highest referral acceptance rate with 90%.
4. Removable prosthodontics (dentures), periodontics, endodontics-canal location, endodontics (retreatment) and tooth wear were the main reasons for referral to restorative dentistry departments.
5. Case complexity data was collected in GDH (gathered as part of an internal service review), which was used to determine the proportion of patients that required treatment by a consultant or non-consultant specialist. Tier 1 treatments refer to dental treatments that can typically be provided by dentists in their practice, Tier 2 refer to dental treatments that can delivered by a dental practitioner with additional skills and Tier 3 refers to dental treatments that should be provided by a specialist or consultant. Around 40% of referrals received in GDH were placed in Tier 2, 18% in Tier 3 and 12% in Tier 1 levels of complexity. 30% of referrals received had insufficient information.

6. The number of referrals received in EDI was lower compared to other dental hospitals. This might be because EDI referral guidelines/criteria were very stringent. Therefore, GPs may have refrained from referring patients who do not fulfil the referral criteria and this was reflected in the acceptance rate which was high for EDI (80%).
7. ADH and DDH received a few referrals from other Health Boards, whereas GDH received almost half (50%) of their referrals from surrounding Boards and EDI received just under 20% of referrals from surrounding Boards.
8. It was observed that patients aged 45 and over referred to restorative dentistry departments were spread across all SIMD quintiles.

3.2 Hospital Consultants Perceptions

Semi-structured interviews were conducted between November 2018 and June 2019 to investigate the perceptions of a representative sample of consultants in restorative dentistry, oral surgery and oral medicine regarding the secondary care service provision to adults of age 45 and over. Thirteen consultants and honorary consultants based in four dental hospitals/institute participated in the interviews and a topic guide was used to ensure relevant areas were covered.

3.2.1 Key findings

1. Consultants interviewed stated the number of referrals to the hospital service were on the rise for patients aged 45 and over. It was suggested there may be a gap between service provision compared to need in some Board areas.
2. According to consultants, GPs were perceived to be struggling in three major areas while managing an adult patient. These include treating tooth wear, complex medical histories and a perceived limitation in the scope of the SDR.
3. The workforce required to deliver secondary care restorative dentistry, oral medicine and oral surgery services was not sufficient in some Board areas, particularly in oral medicine. Consultants in restorative dentistry departments suggested a lack of capacity in middle grade staff, staff grades and specialty dentists. Expanding the resource through these staff groups would free up consultants to work on the most complex cases.

4. Consultants interviewed stated Practitioner Services Division (PSD) and consultants should have better communication regarding the treatments funded by the NHS. Treatment plans designed by consultants were sometimes rejected by PSD.
5. Provision of implants and their maintenance should be nationally agreed as arrangements were not consistent, making this inequitable for patients.
6. Consultants expressed some concern regarding the experience of GPs to manage older patients in a GDS practice setting. It was suggested that training pathways in general practice should be developed and consultants, specialty dentists and dental officers who have experience treating older adults should help train dentists.
7. Consultants suggested a national dental strategy for tackling the ageing population and the challenges of managing patients with multiple co-morbidities should be developed, taking into consideration population demographics and a realistic view of what dentistry can and cannot be delivered within the NHS. They felt that the workforce, skill mix and resources needed to implement the strategy should also be considered in detail.
8. Prevention was overwhelmingly recommended by the consultants as a fundamental tool to support improved oral health in the long term. They felt that primary care dental teams play an important role in prevention and therefore should be supported to provide preventative care. Consultants stressed that for prevention to be effective it should be properly funded.

3.3 Patient Interviews in Dental Hospitals

As part of needs assessment, patients of age 45 and over attending HDS were interviewed. The aims of these interviews were:

1. To investigate patient attitude about oral health status, oral hygiene, diet, health and ageing

2. To explore the perceptions of patients about oral health services and service providers

3.3.1 Methodology

Structured face-to-face interviews were conducted between 13 December 2018 and 13 March 2019 in the restorative dentistry departments of the three dental hospitals (Edinburgh, Dundee and Glasgow) in Scotland. A questionnaire was used to ensure relevant areas were covered. Participation in the interviews was voluntary, a patient information leaflet and consent form were given to the patients who volunteered to be interviewed. A total of 52 patients attending restorative dentistry services participated in the hospital patient interviews. Fewer (46%) female patients participated in the interviews compared to male (54%) patients.

3.3.2 Key findings

1. Only 17% of patients that participated in the interview reported they had all their natural teeth.
2. Patients attending the hospital restorative dentistry service described the condition of their mouths as 'poor', 'bad', and 'awful'.
3. Patients valued the preventative advice offered in the hospital and reported their oral hygiene had improved significantly after attending the hospital restorative dentistry service. Furthermore, patients attending hospital services reported being motivated about their general health, diet and ageing. This was as expected and it should be noted preventative advice provided in the dental hospital is multifaceted and may be more intense due to the severity of the condition that patients present with.
4. Fear of the dentist or dental anxiety and lack of parental guidance during childhood were commonly reported causes of poor oral health. Patients that were interviewed felt gum disease could have been prevented and felt their dentist had not advised them of the condition before it got worse.
5. Most patients were happy with information and communication received in the hospital. However, patients in some hospitals felt overwhelmed and reported they did not understand dental terminology.

6. The hospital restorative dentistry service was highly rated by the patients interviewed.

7. Patients reported they were motivated to regularly visit the dentist because they wanted to keep their mouth and teeth healthy for as long as they could. Frailty and ill health were the main barriers mentioned by the patients of age 65 and over. Patients aged 45-64 reported a positive and supportive attitude of their dentist was very important to them.

4 Public Dental Service (PDS) Service Provision

4.1 PDS Clinical Dental Directors Survey

The PDS Clinical Dental Directors (CDDs) survey was carried out between 30 January 2019 to 20 February 2019. The CDDs also provided information about activity, workforce and staff training in April 2019.

The aim of the survey was to investigate the provision of dental services to adults of age 45 and over (45-64 and 65+) by the PDS.

4.1.1 Key findings

1. All Health Boards provided special care dentistry for adult patients. The number of referrals received per month for special care dentistry differed across Health Boards and ranged from less than 5 to more than 150. Almost all Health Boards had referral criteria for accepting new patients to the special care dentistry service, apart from the Island Boards and one mainland Board. Each Board set their own criteria but most Boards accepted priority group (dependent older people, adults with additional care needs and people experiencing homelessness) patients. Only three Boards indicated that they had dedicated teams specifically for special care dentistry.
2. Almost all Boards reported that they received more than 50 referrals per month for patients with dental anxiety/phobia. Three Boards did not indicate how many referrals they received.
3. All Boards reported that they provided domiciliary dental care. Most Boards did not have dedicated domiciliary staff. Eight Boards indicated that they provided training specifically for those staff providing domiciliary care. Three Boards indicated they did not have protocols or guidance for those going on domiciliary visits.

4.2 PDS Staff Perceptions

Semi-structured interviews were conducted between February and May 2019 to investigate perceptions of a representative sample of specialists and dental officers working in the PDS across Scotland. A total of 15 PDS staff, including specialists, senior dental officers and dental officers participated in the SDNAP semi-structured

interviews. A topic guide was used to ensure relevant areas were covered. Thematic analysis of interview transcripts was undertaken using NVivo 10.

4.2.1 Key findings

1. Staff reported the volume of referrals and number of patients seen in the PDS had increased. There was a particular increase in patients of age 65+ who had retained some dentition, had complex needs and had increased maintenance requirements due to having received complex dentistry in the past.
2. Staff reported more patients were eager to retain their teeth for as long as possible and some were reluctant to wear removable dentures. These patients were more inclined to present with implants, bridges and crowns. PDS dentists did not feel prepared to treat older patients (often in care homes) with complications arising from implants. Implants may require maintenance and/or extraction and staff felt they did not have the training and equipment to deal with this.
3. Some PDS staff raised concerns about access to NHS GDS treatment for unregistered patients. Access to NHS dental care was limited in some parts of the country due to a shortage of NHS GDPs. Some GDP practices reported limited access for patients with mobility problems.
4. A number of the staff interviewed felt there was not a robust mechanism for following up patients who had not accessed dental care for some time. Patients may have become housebound or moved into residential care and not contacted their GDP to inform them of this. There was a concern these patients may slip through the net.
5. It was felt there was little financial incentive in the SDR to carry out treatment for patients with complex or additional care needs and this may result in patients with complex medical histories and multiple co-morbidities being referred to the PDS from their own GDP.
6. More good quality training courses may need to be made available in the future for all clinical staff to gain the knowledge and skills required to treat patients with complex or additional care needs and complex medical conditions.
7. Some interviewees suggested accreditation of GDP practices to treat patients with complex conditions should be considered. These accredited practices would have

dentists who could manage complex cases and had undertaken all the necessary training including Adults with Incapacity training and manual handling. These practices should also meet all the requirements for being completely accessible to all patients.

8. There was some perceived ambiguity about what should be seen in the HDS and what should be seen in a special care PDS. As such, it was suggested that referral criteria should be agreed nationally and that there should be good communication and a close working relationship between HDS and special care services for coordinating care for patients.
9. Standards of oral care for care home residents varied widely. Care home residents should have an oral health risk assessment and as part of this assessment an evaluation made about what level of support they require with mouth care.
10. Some survey participants suggested a fluoride varnish programme similar to 'Childsmile' should be developed for care home residents. They suggested a fluoride varnish programme for older adults and care home residents to reduce tooth decay would be beneficial.
11. Access to ambulance transport and wheelchair taxis was limited in some areas and this meant it was difficult for some patients to access PDS clinics.
12. In some instances, the staff interviewed were not aware of any plans or provisions to manage an increasing population of ageing and elderly patients.
13. Some PDS staff interviewed identified a shortage of staff contributing to reduced capacity in PDS services and long waiting lists. Staff felt they were unable to see patients on time and there were delays in delivering treatment. Staff reported that some PDS clinics had closed and some services such as anaesthetist-led sedation had been withdrawn in some Board areas. Some areas had seen a number of retirements and not all of these posts had been filled but instead offered up for savings. PDS staff noted they felt there had been a loss of expertise in special care dentistry and treating older adults owing to retirement of senior clinicians, resulting in a knowledge and experience gap in services.
14. It was noted that PDS dentists undertook a key role in training and mentoring GDPs undertaking the training to become dentists with enhanced skills in domiciliary care.

15. Those interviewed expressed the importance of providing tailored advice regarding tooth brushing, oral hygiene, diet, lifestyle advice and information about the link between dental health, and general health, and the need to support the offer of this to patients.

4.3 Patient Interviews in the Public Dental Service

As part of the needs assessment, patients aged 45 and over attending the PDS were interviewed. The aims of these interviews were:

1. To investigate patient attitudes about oral health status, oral hygiene, diet, health and ageing.
2. To explore patient perceptions of oral health services and service providers.

4.3.1 Methodology

Structured face-to-face interviews were conducted between 19 June 2019 and 8 July 2019 in three PDS clinics located in Greater Glasgow and Clyde and Tayside. A total of 27 patients participated in the patient interviews, with 41% of participants being male and 59% female. Although PDS staff provide domiciliary care, domiciliary patients were not included in the interviews. A questionnaire was used to ensure relevant areas were covered. Participation in the interviews was voluntary and a patient information leaflet and consent form were given to patients who volunteered to be interviewed.

4.3.2 Key findings

1. 15% of patients interviewed reported they had retained all of their natural teeth.
2. Most patients said they were happy with their oral health and described their oral condition as 'fine,' 'ok' and 'healthy.'
3. Patients valued the oral hygiene advice offered in PDS clinics and reported their oral hygiene had significantly improved since attending the PDS. Information relating to proper brushing technique and oral hygiene was welcomed by patients.

4. Patients attending the PDS service were aware consuming sugary foods and drinks could cause tooth decay. Patients said they were proactive in attempts to improve their health and diet.
5. Patients reported they were happy with the information and communication received in PDS clinics and rated the service highly.
6. Patients said they were motivated to visit a dentist regularly because they wanted to keep their mouth and teeth healthy as long as they could.
7. Patients reported they would not be able to afford dental treatment if the treatment costs were to increase.

5 Dental Care Professionals (DCPs) Survey

The aim of the survey was to explore the dental treatment of older adults by dental hygienists and therapists and elucidate any barriers to providing care in different settings such as general dental practice, PDS, domiciliary settings and care homes.

5.1 Methodology

An online survey of General Dental Council (GDC)-registered dental hygienists (DH), therapists (DT) and dually qualified hygienist and therapists (DH-Ts) was conducted between late June and early September 2019. The survey used a mailing list based on the GDC Register, supplied to Edinburgh Dental Institute, University of Edinburgh by the GDC under strict conditions of confidentiality and use. No individual or practice is identifiable in any report.

The timing of the survey, which extended over the summer school holidays, was not ideal, and was due to delays in reaching a legally binding agreement between the University and the GDC.

The work from this survey contributed to a peer-reviewed publication (Turner, Symeonoglou, & Ross, 2020).

5.2 Key findings

1. 104 hygienists and 92 therapists responded, giving a 32% response rate. This was representative of the two professions in Scotland among the 615 registered with the GDC.
2. 75% of the 196 worked in private and/or NHS general practice, 21% in the PDS, and 9% in corporate bodies or other settings (the percentages presented in the data add up to more than 100% as some respondents work in multiple settings). Most worked part time. All NHS Board areas were represented.
3. Over half of their patients were 65 or older, rising to nearly two-thirds for those working in general practice. Most believed the number of over 65s they saw was increasing.

4. For most (57%) respondents, appointment times were inflexible - 15 or 30 minutes. This was especially the case in general practice – the PDS appeared to be more flexible.
5. Poor brushing, dry mouth and poor care of dentures were noted as the most serious clinical problems.
6. Insufficient time and issues regarding consent and power of attorney were the worst administrative problems in the workplace.

'Please give us more time for elderly patients so we can treat them with the respect they deserve and not hurry them in and out of surgery without properly explaining good oral hygiene and how to achieve it.' DH, NHS General Practice.

7. 24% (mainly PDS) undertook domiciliary visits. The top ten issues were: poor hygiene, communicating with patients, lack of suitable space and equipment, capacity to consent, power of attorney, lack of support staff, poor denture storage/maintenance and insufficient training and time.

"I have to take my own chaperone so a dental nurse has to be made available (I don't normally have my own nurse), so staffing is an issue. Even if I am available, a dental nurse may not be." DH, Private Practice and NHS General Practice.

8. 22% (mainly PDS) visited care homes. The top ten issues were: staff liaison, communicating with patients, lack of support staff and space, capacity to consent, denture storage/maintenance, co-morbidity, power of attorney, lack of equipment and NHS charges exemptions.

"I feel there is a huge lack of care for the elderly in care homes. I feel the problem will only get worse, in the future there will be a lot of elderly patients with implants unable to care for them." DH and DN, Private Practice and NHS General Practice.

9. DH-Ts often said their work with older people did not fully utilise their training and clinical scope of practice. Many felt the need for additional training: treating patients with dementia was the most requested topic.

10. There was some support for working on a direct access basis and having an NHS list number.

“A new model of working needs evolving. Dentistry needs to learn from our medical colleagues where wider teams may be the first to see an individual.”

DH-T, PDS

References

Turner, S., Symeonoglou, P., & Ross, M. K. (2020). The delivery of dental care to older adults in Scotland: a survey of dental hygienists and therapists. *British Dental Journal*. <https://doi.org/10.1038/s41415-020-1790-5>

6 Care Home Managers' Survey

6.1 Aim

The aim of the care home managers survey was to determine the need for oral care support and to investigate the knowledge (training), policies and procedures (practice) in place for providing oral care support to care home residents in Scotland.

6.2 Methodology

SurveyMonkey was used to undertake the care home managers' survey between 27 January and 28 March 2019. An email invitation was sent to the managers of 964 adult care homes. Care homes for adults and older people were included in the survey. Email addresses of care home managers were obtained from the Care Inspectorate data store.

The questionnaire covered topics such as, oral health of care home residents i.e. number of residents with dentures, policies and procedures in place, training of staff and barriers to providing oral care support and other important topics. A total of 340 responses were received out of 964, giving a response rate of 35%. However, not all care homes completed the survey. Some care home managers started the survey but did not fully complete the survey, so these responses were excluded from the results. After excluding, the response rate was 24% (n = 234). A sample size of 275 was needed to achieve a confidence level of 95%, while a sample size of 213 was enough to achieve a confidence level of 90%. Care homes were categorised/stratified for analysis based on the age of their users i.e. Older adults: 65 and over, Mixed: 55 and over and Younger adults: 18-54 years.

6.3 Key findings

1. Respondents represented all 14 NHS Boards and approximately 50% of care homes were from SIMD 3 and 4 areas. It was also noted 53% of care homes that responded were located in urban areas and approximately 15% were located in remote areas.
2. 95% of care homes that responded were for older adults (65 and older) and mixed (55 and over) groups.

3. The need for oral health support was very significant in all types of care homes, with 84% and 81% of residents requiring tooth brushing support in mixed (55 and over) and younger adults (18-54) care homes respectively. The need for tooth brushing support was just below 75% in care homes for older people (65+). On average 79% of care home residents required support with tooth brushing.
4. Over 82% of care homes reported they carried out an oral health risk assessment (OHRA) for their residents and had an oral care plan in place for their residents. In addition, 42% of care home managers that responded to the survey reported they carried out an OHRA every month.
5. Over half (54%) of the residents in older adults (65 and over) care home and 43% of the residents in mixed (55 and over) aged care homes wore dentures at the time of the survey.
6. Only 17.5% of care homes had a policy in place to prevent denture loss.
7. The most common barrier to providing oral hygiene support to care home residents was stress and distress of residents with 83% of responses. Training, time pressures, oral hygiene supplies and other barriers were also mentioned.
8. Care home managers indicated that pain (95%) and swelling (83%) involving tooth, gum or mouth were the most common problems that would prompt a call to a dental service.
9. More than 80% of care homes reported a dentist visited their care home and 83% of care homes also reported residents went out to see the dentist.
10. Over half (58%) of the managers reported their staff were trained to provide oral hygiene support, whereas 33% did not answer the question and 9% reported their staff were not trained to provide oral hygiene support to the residents.
11. Overall, 86% (n=201) of respondents reported that the Caring for Smiles team/local NHS Board oral health team provided training to their care staff.

7 Glossary/Abbreviations

| | |
|-------|---|
| ADH | Aberdeen Dental Hospital |
| CDDs | Clinical Dental Directors |
| DCPs | Dental Care Professionals |
| DDH | Dundee Dental Hospital |
| DH | Dental Hygienist |
| DH-T | Dually Qualified Dental Hygienist-Therapist |
| DT | Dental Therapist |
| EDI | Edinburgh Dental Institute |
| GDC | General Dental Council |
| GDH | Glasgow Dental Hospital |
| GDP | General Dental Practitioner |
| GDS | General Dental Services |
| HDS | Hospital Dental Service |
| HNA | Health Needs Assessment |
| ISD | Information Services Division |
| OHIP | Oral Health Improvement Plan |
| OHRA | Oral Health Risk Assessment |
| OMFS | Oral and Maxillofacial Surgery |
| OPCS | Operating Procedure Codes Supplement |
| PDS | Public Dental Service |
| PHS | Public Health Scotland |
| PSD | Practitioner Services Division |
| RDGH | Raigmore District General Hospital |
| SDG | Sustainable Development Goals |
| SDNAP | Scottish Dental Needs Assessment Programme |
| SDR | Statement of Dental Remuneration |
| SIMD | Scottish Index of Multiple Deprivation |

8 Glossary of Terms

Childsmile: National oral health improvement programme for children in Scotland.

Dental Caries: Caries is a multi-factorial, dynamic disease, caused by the action of plaque bacteria and fermentable carbohydrate on susceptible tooth surfaces over time.

Dental Care Professionals (DCPs): This term refers to the wider dental team and is made up of dental hygienists, therapists, nurses, orthodontic therapists, technicians and clinical dental technicians.

Endodontics: Branch of restorative dentistry concerned with diseases and injuries affecting the dental pulp, tooth root and the tissues surrounding the root tip.

Functional dentition: A functional dentition is defined as having 20 or more teeth present.

Inhalation sedation (IHS): A light form of sedation where there is no loss of consciousness. It is a mixture of nitrous oxide and oxygen breathed through a nosepiece. This helps the child to feel relaxed and accept treatment. Inhalation sedation is also known as 'happy air'.

Intravenous sedation: Is when a sedative is injected directly into a vein. For people who are nervous about having dental treatment or having a procedure which may cause discomfort, intravenous (IV) sedation is an effective and safe treatment.

Maxillofacial surgery: Surgical specialty concerned with the diagnosis and treatment of diseases affecting the mouth, jaws, face and neck.

NVivo: Is a qualitative data analysis computer software package.

Oral cancer: Malignant tumour of the mouth.

Periodontics: Branch of dentistry concerned with the hard and soft tissues supporting and surrounding teeth.

Prosthodontics: Branch of dentistry concerned with the prosthetic replacement of hard and soft tissues.

Tier 1 treatments: Refer to dental treatments that can typically be provided by dentists and dental hygienists/therapists in their practice.

Tier 2 treatments: Refer to dental treatments that can delivered by a dental practitioner with additional skills.

Tier 3 treatments: Refers to dental treatments that should be provided by a specialist or consultant.